

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

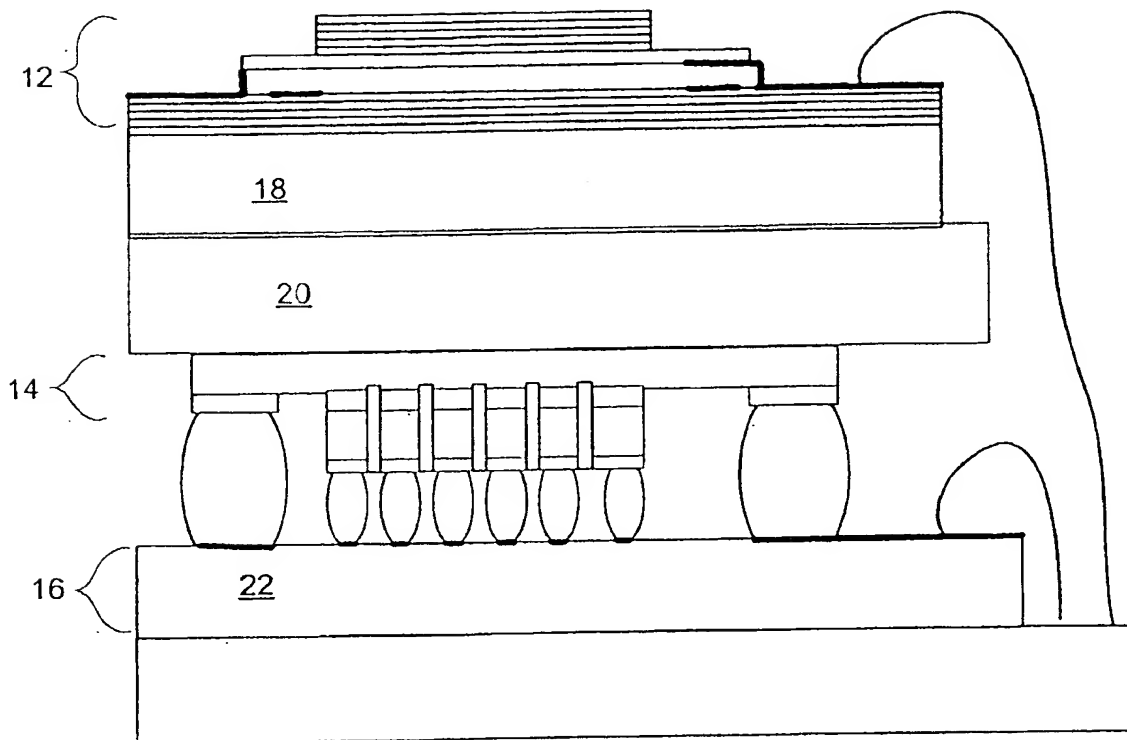
- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**



1100.1223101



***FIG. 2***

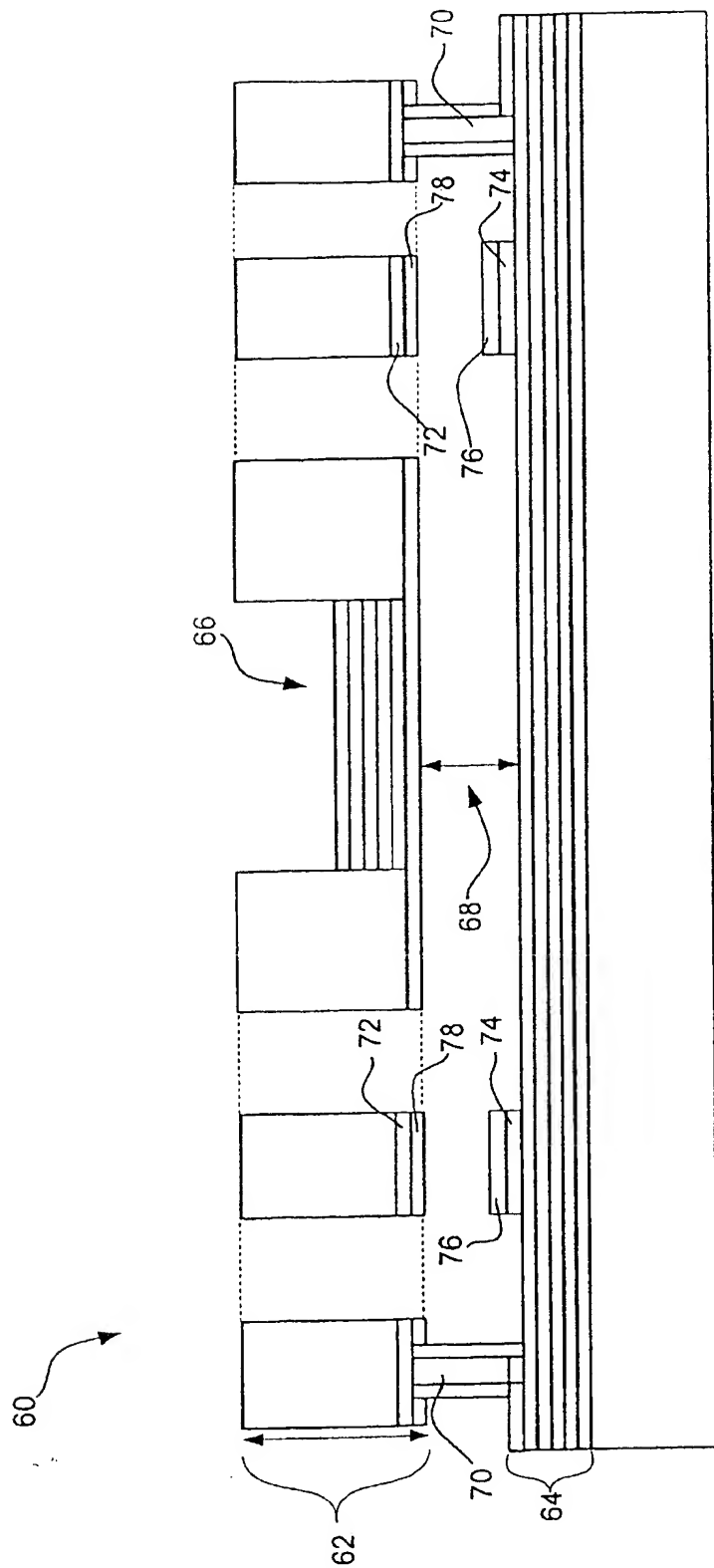


FIG. 3

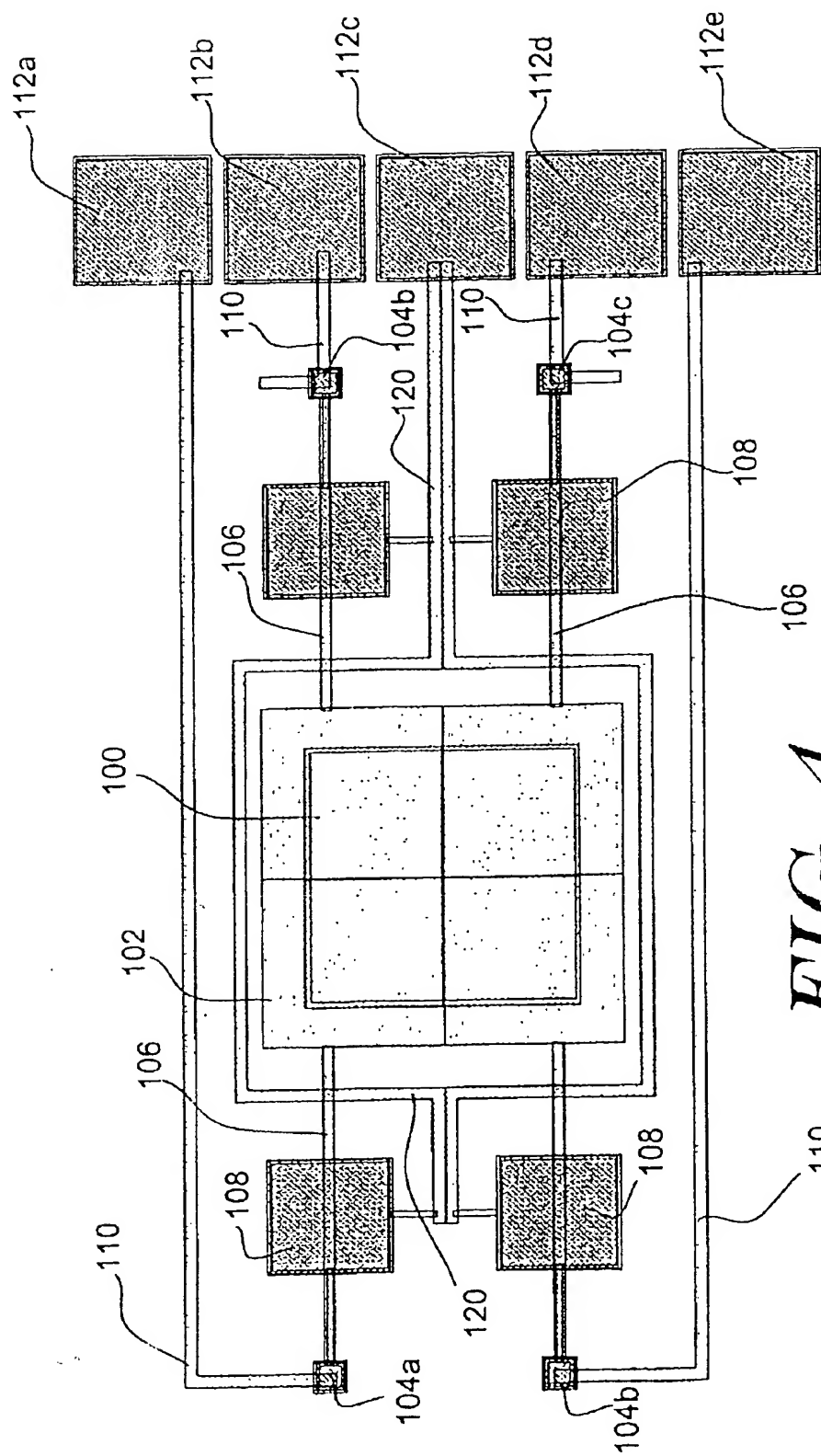
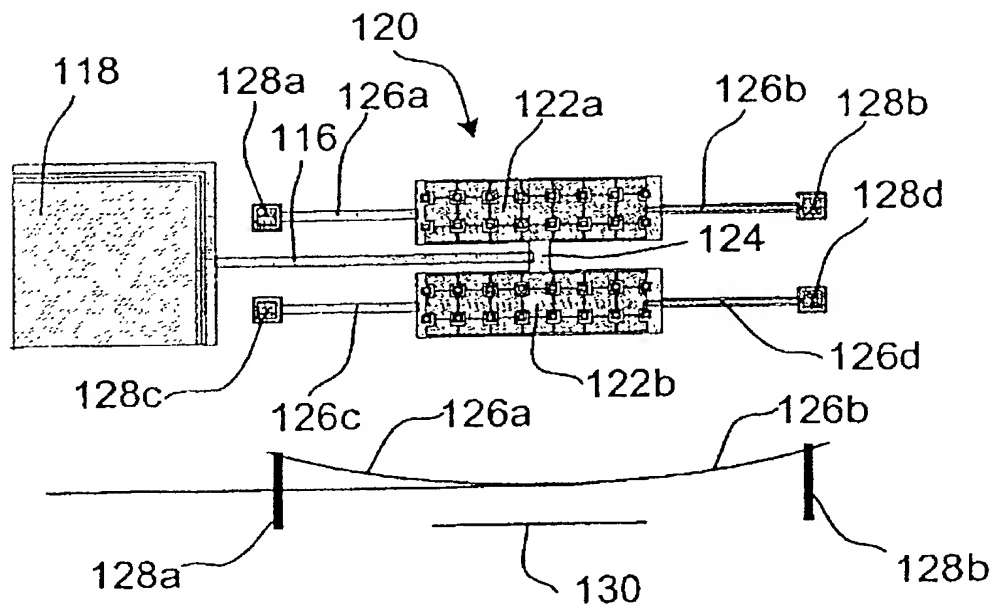
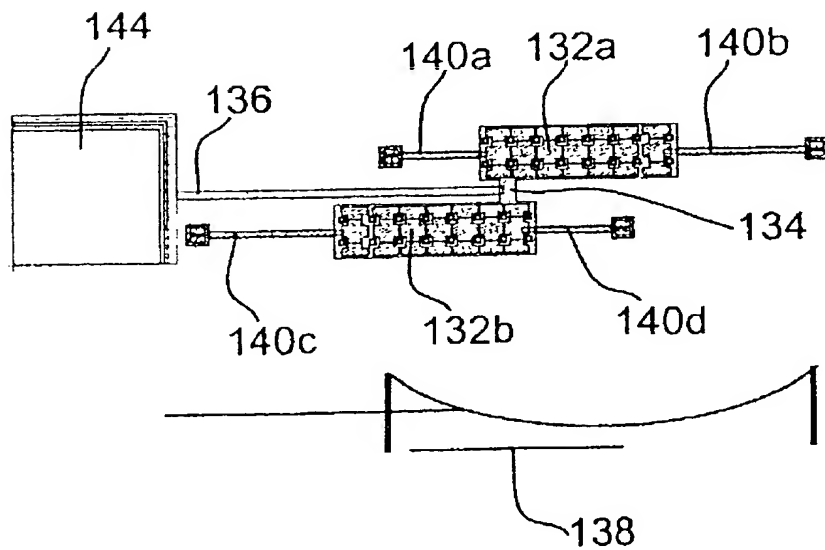


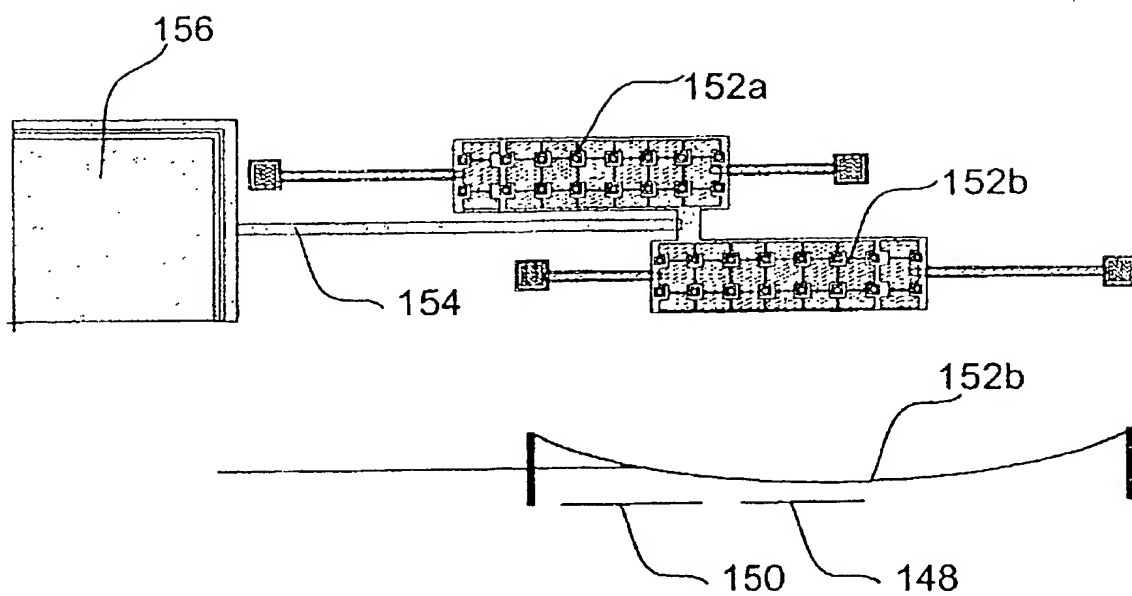
FIG. 4



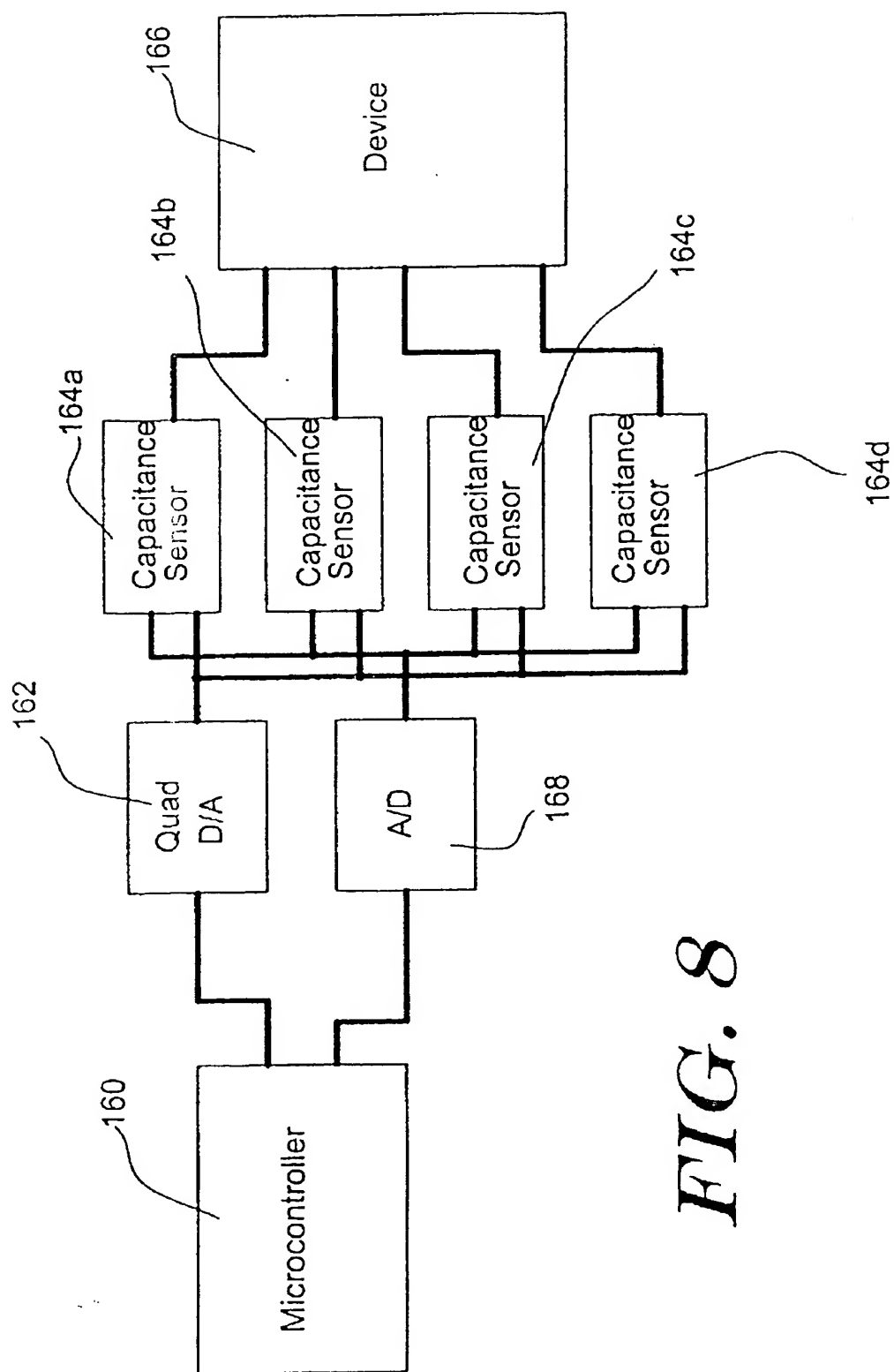
**FIG. 5**



**FIG. 6**



***FIG. 7***



**FIG. 8**



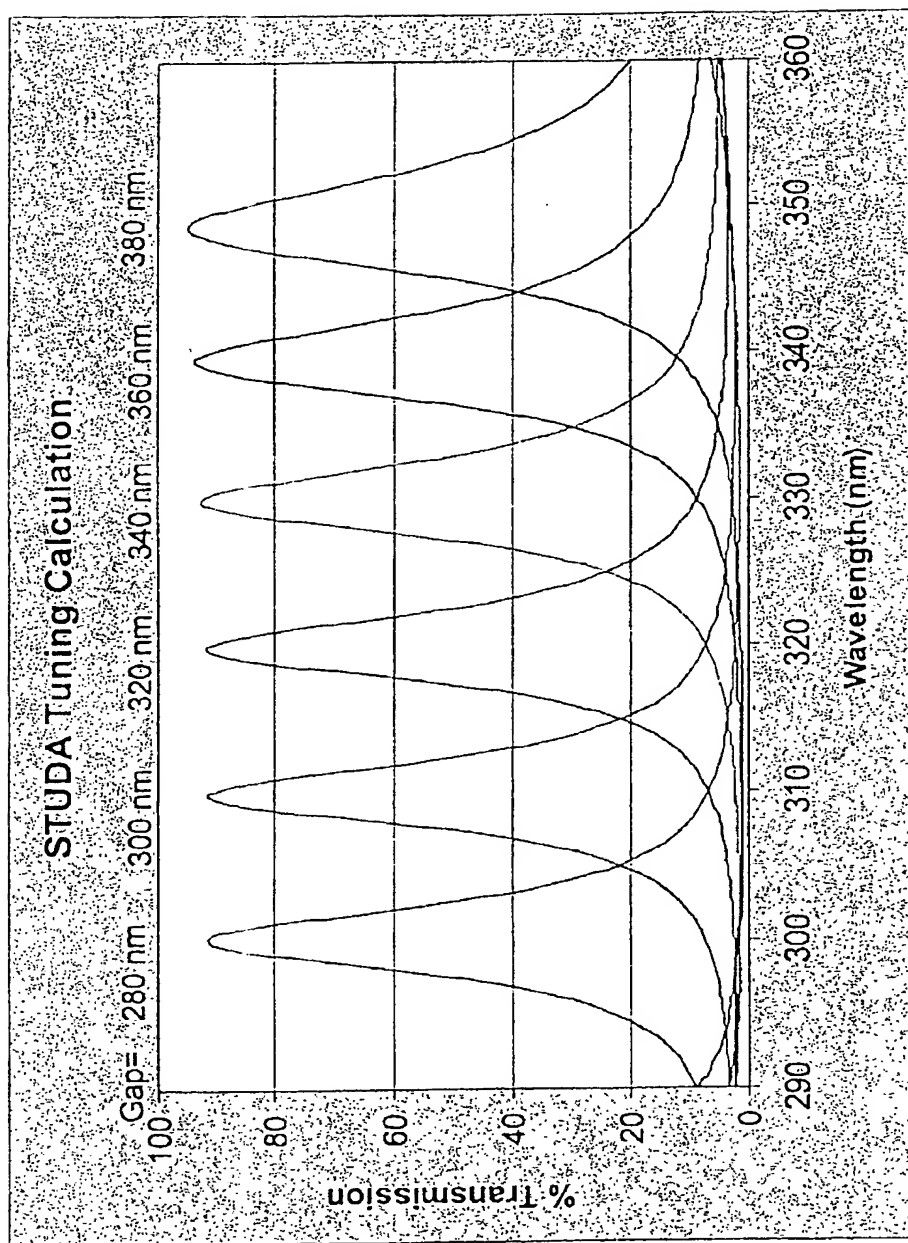


FIG. 9

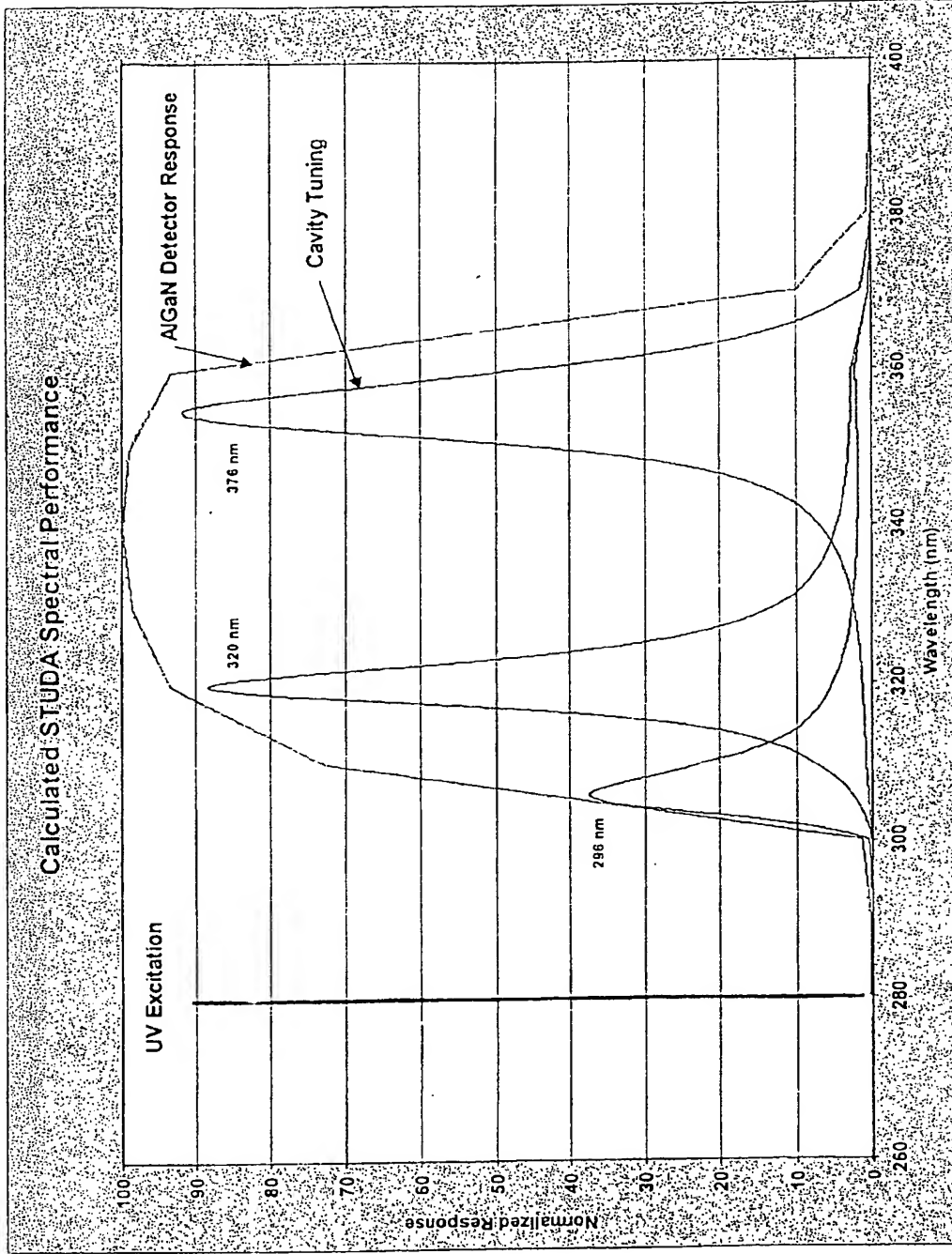
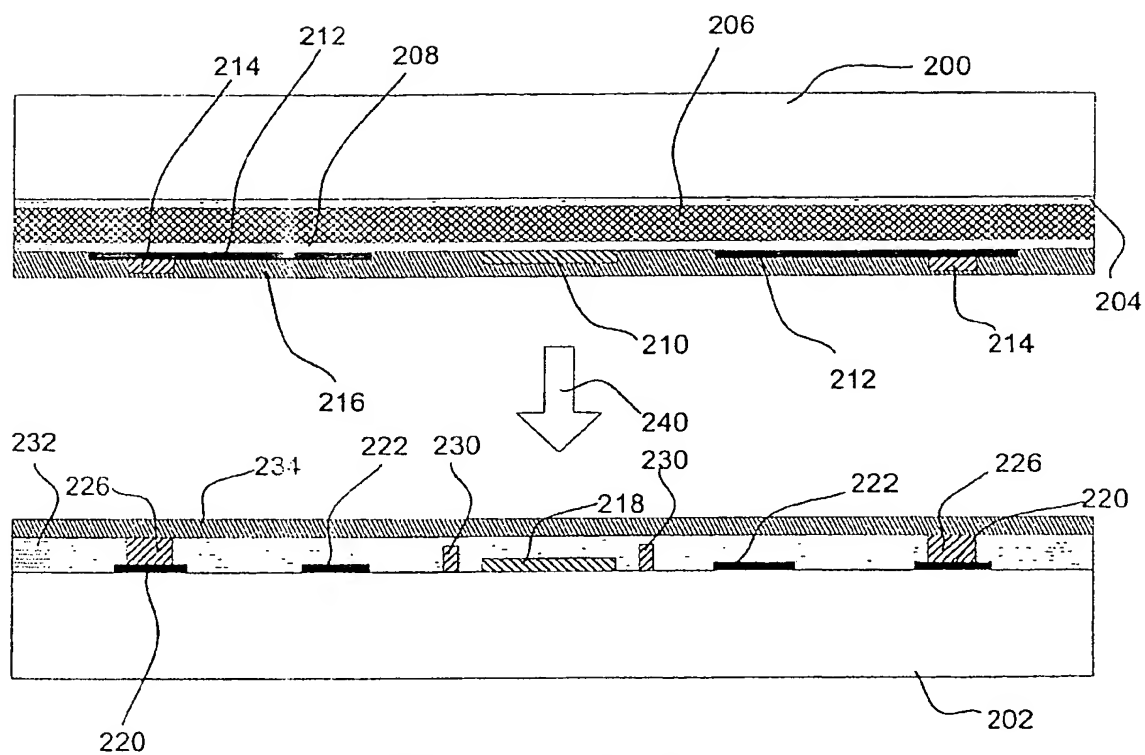
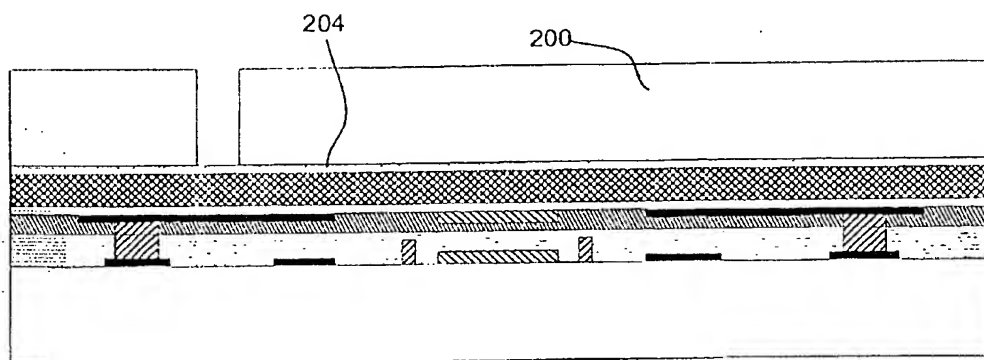
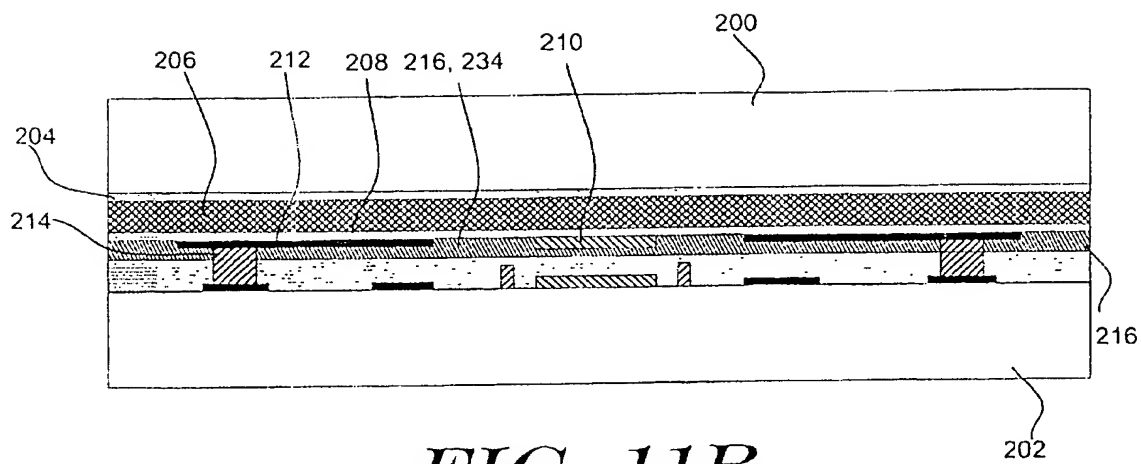
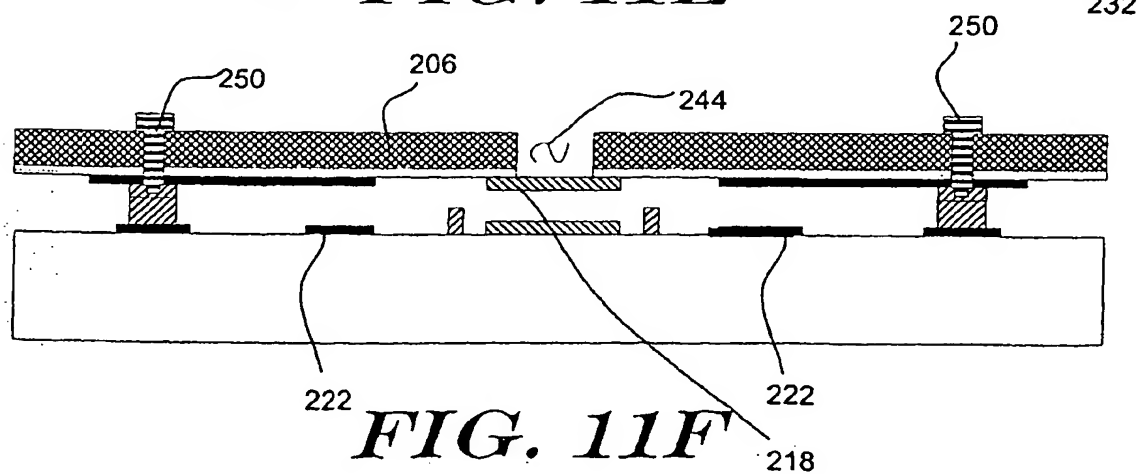
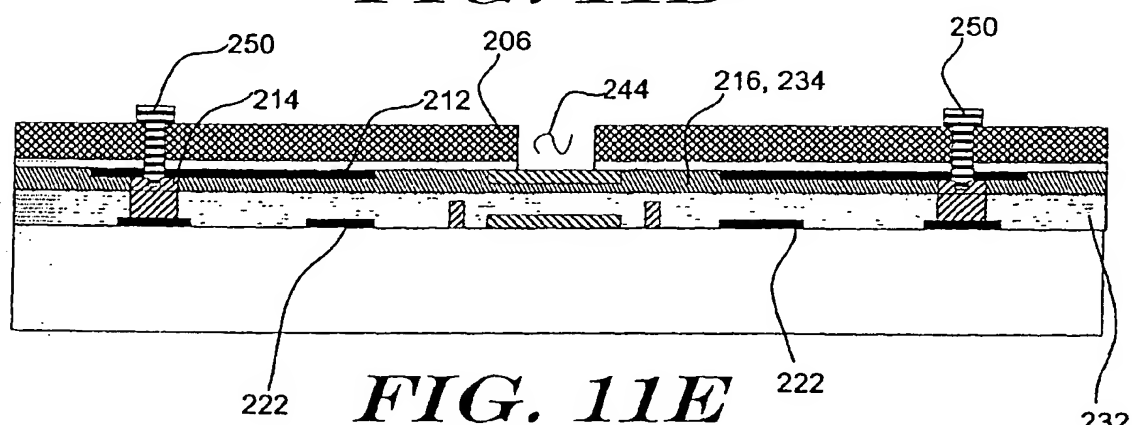
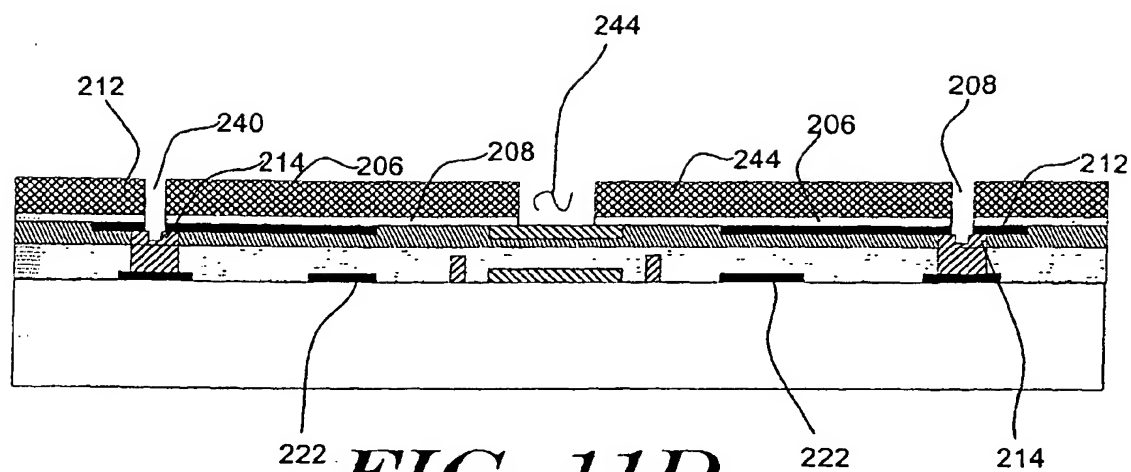


FIG. 10



**FIG. 11A**





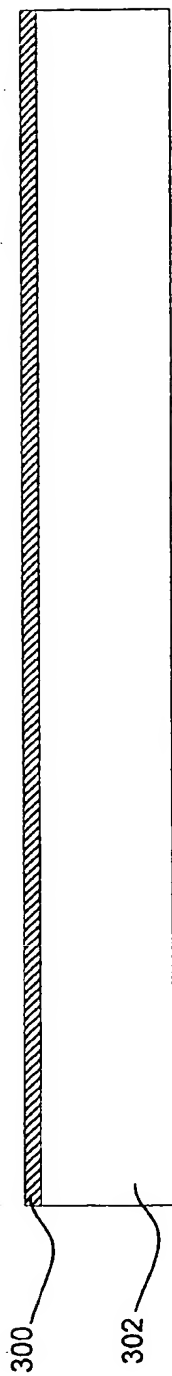


FIG. 12A

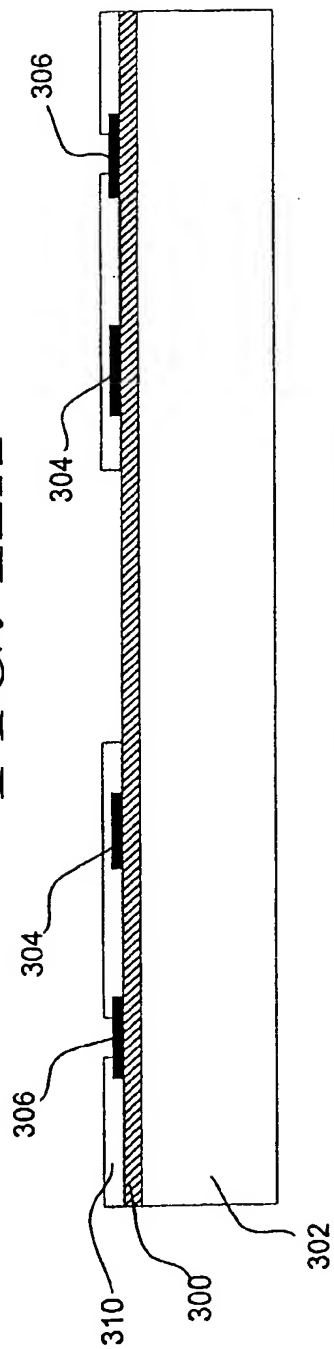


FIG. 12B

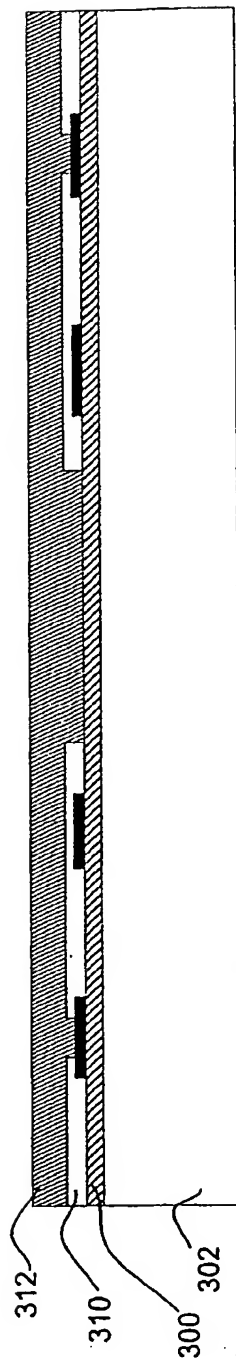


FIG. 12C

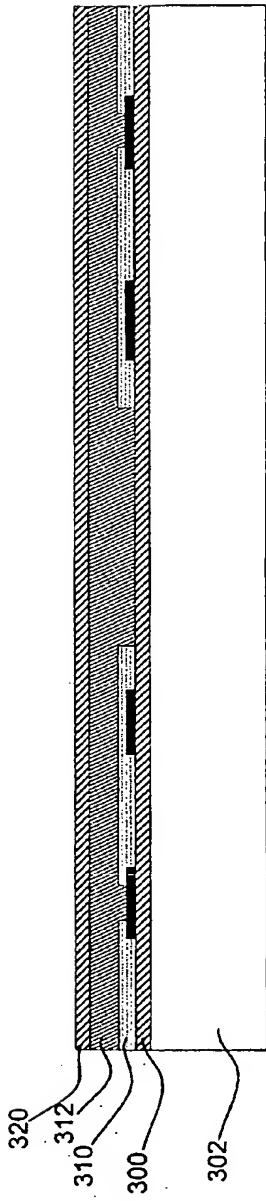


FIG. 12D

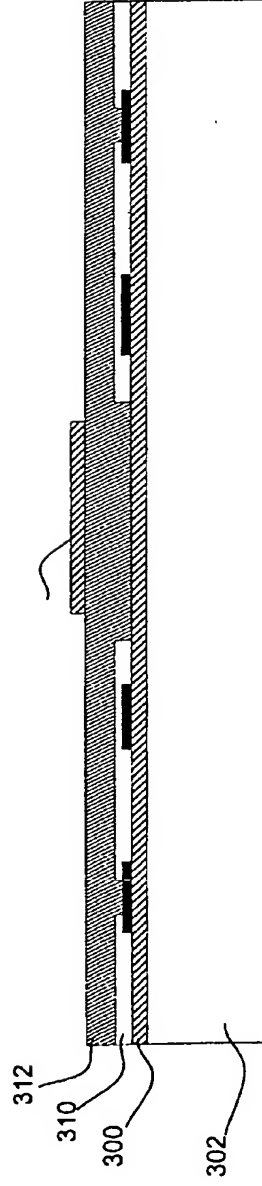


FIG. 12E

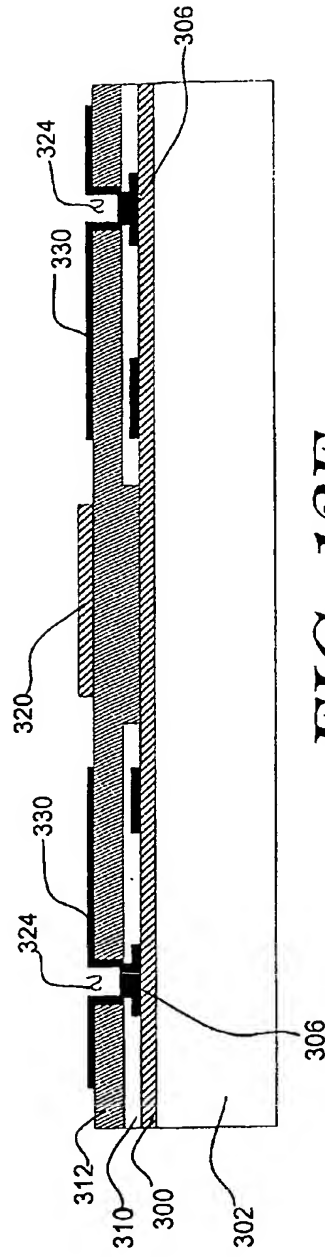


FIG. 12F

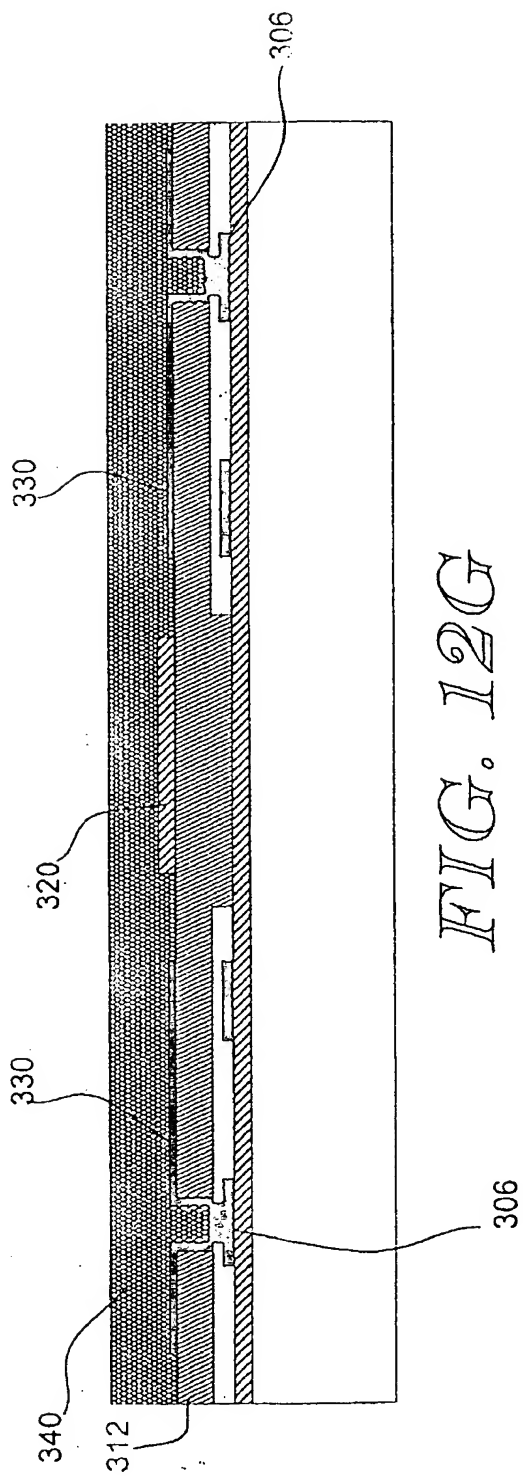


FIG. 12G

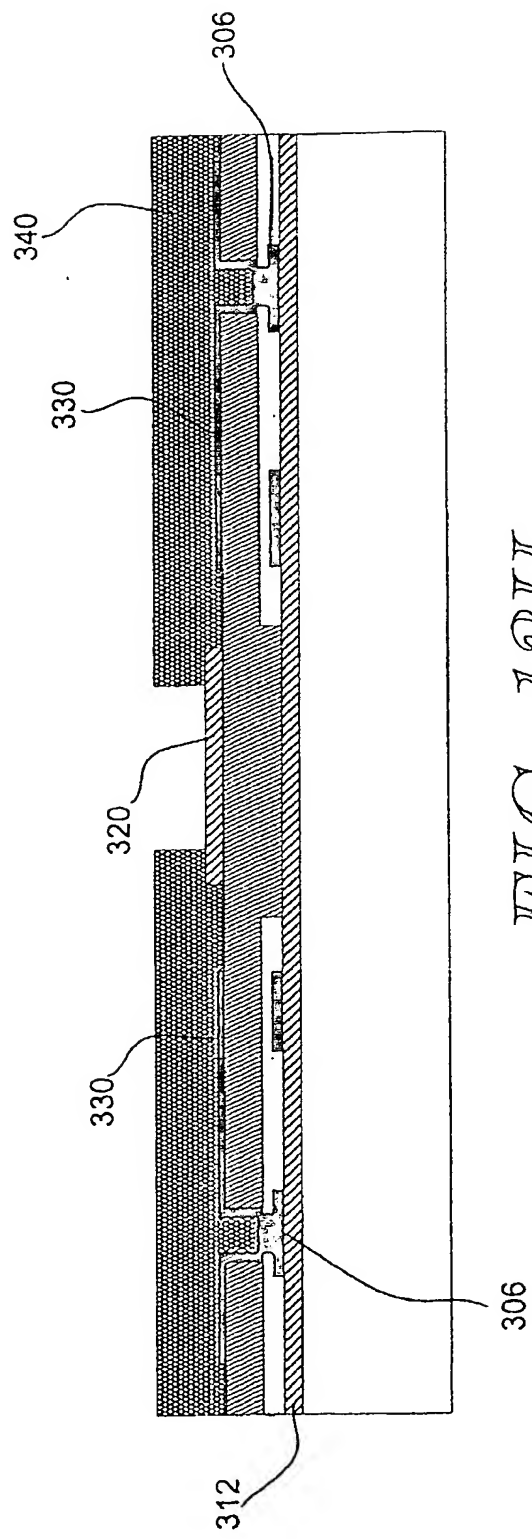
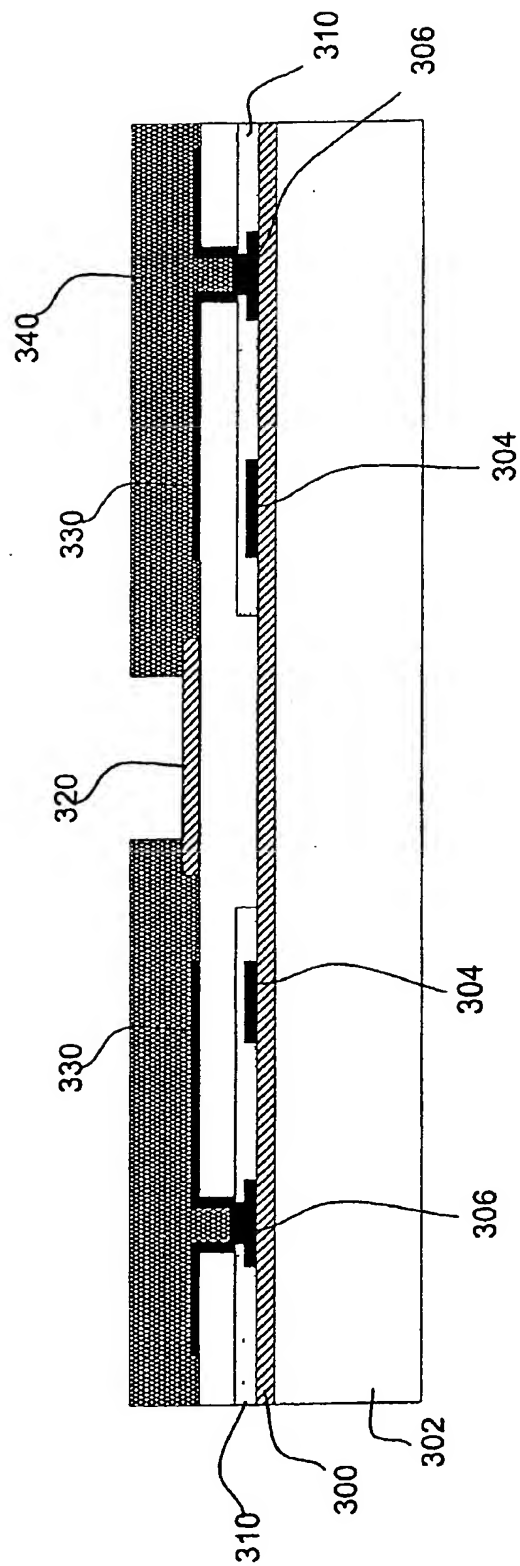
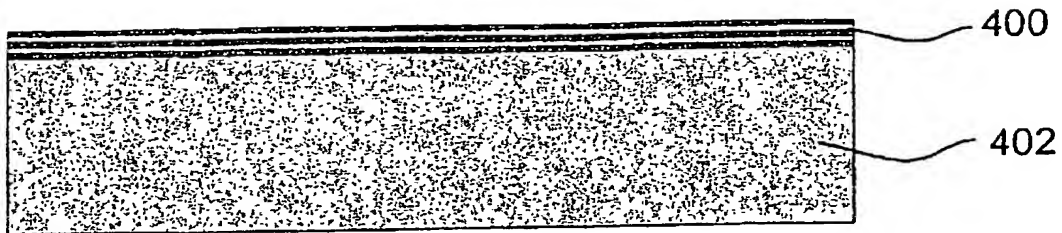


FIG. 12H

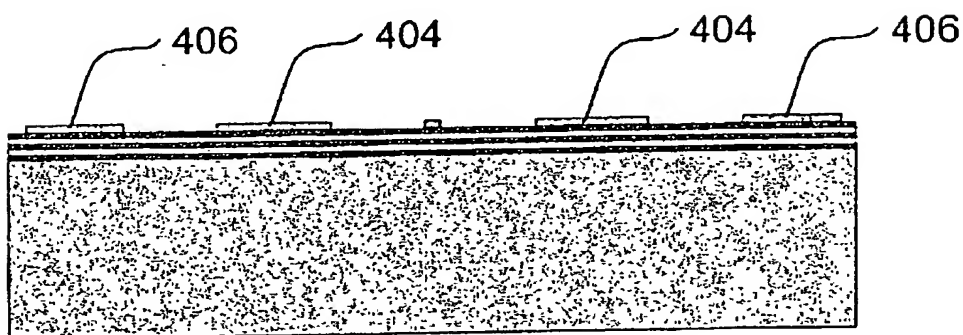




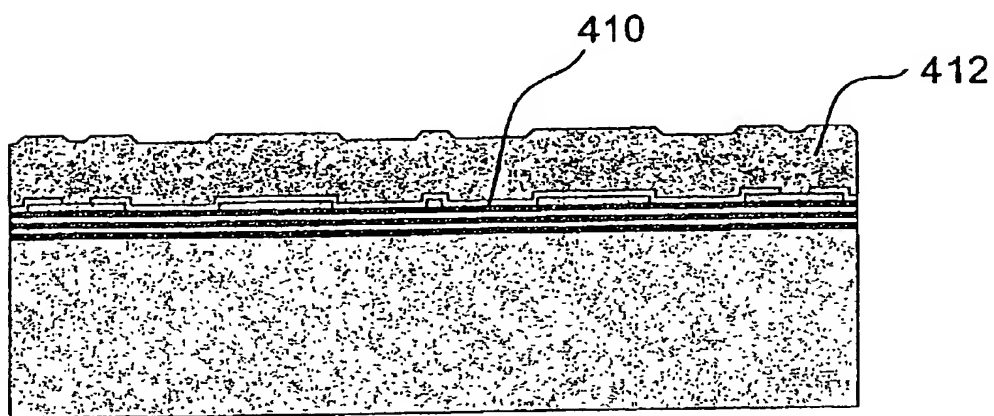
*FIG. 12I*



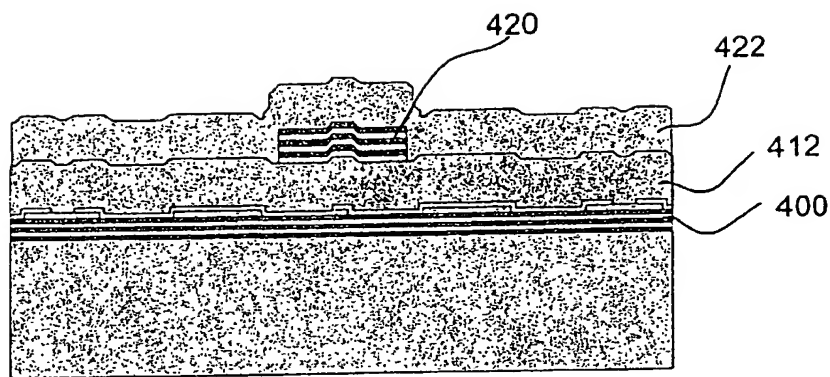
***FIG. 13A***



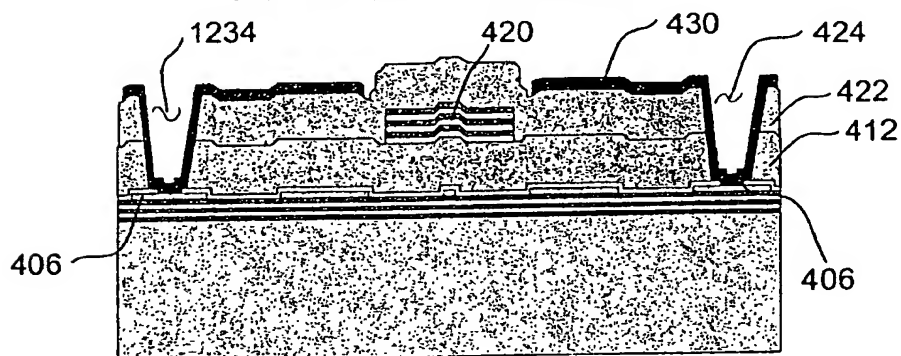
***FIG. 13B***



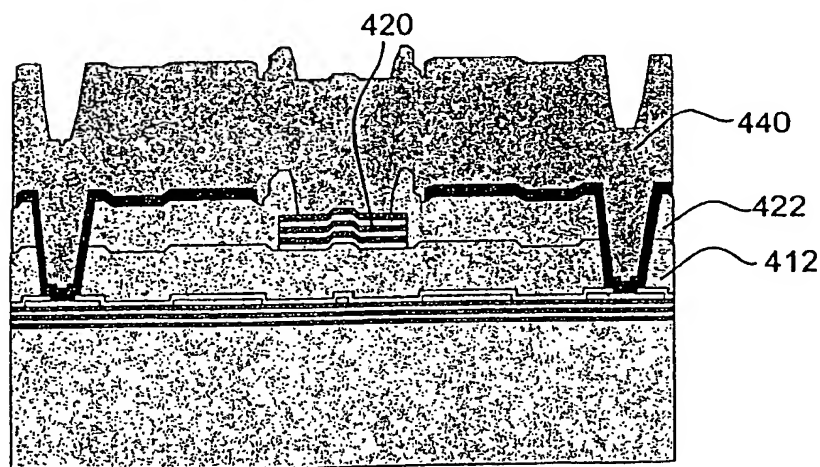
***FIG. 13C***



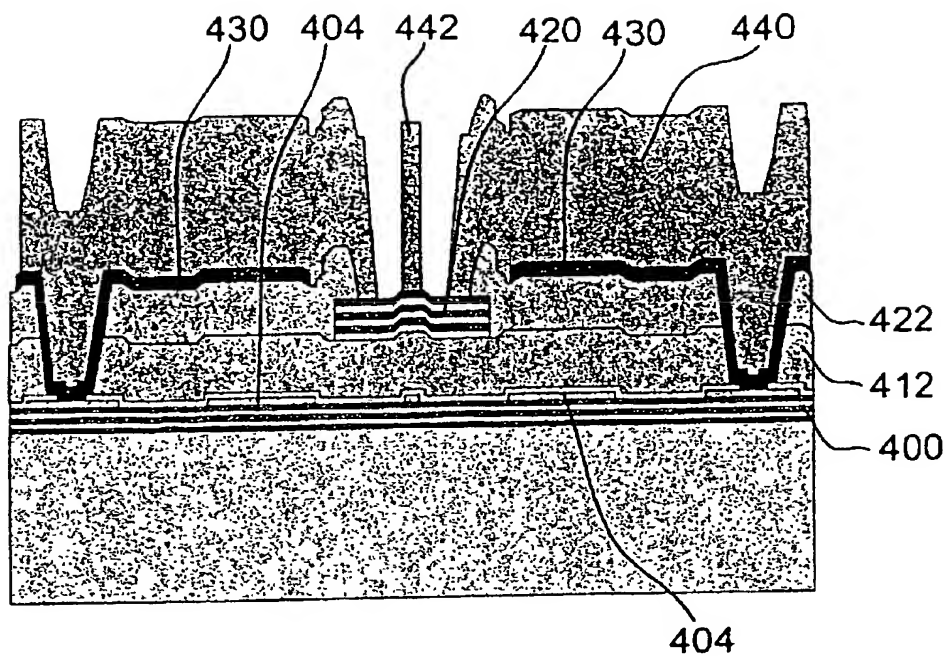
**FIG. 13D**



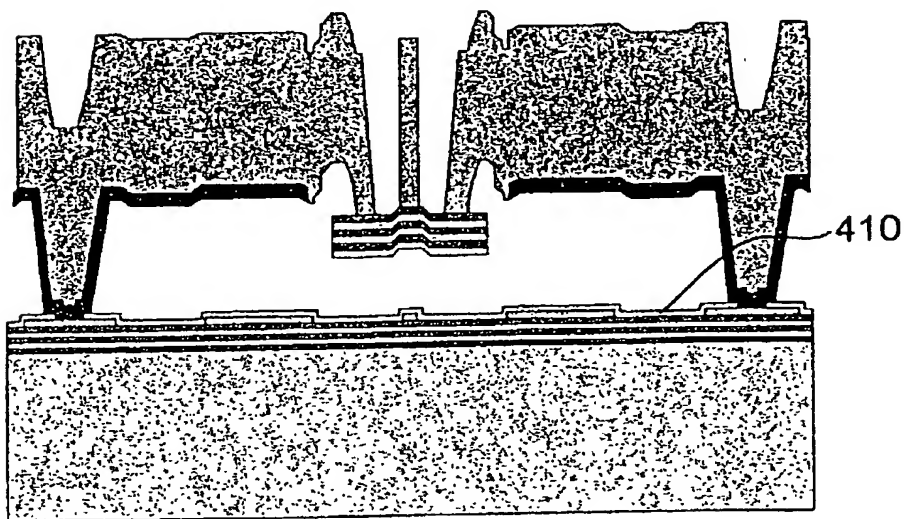
**FIG. 13E**



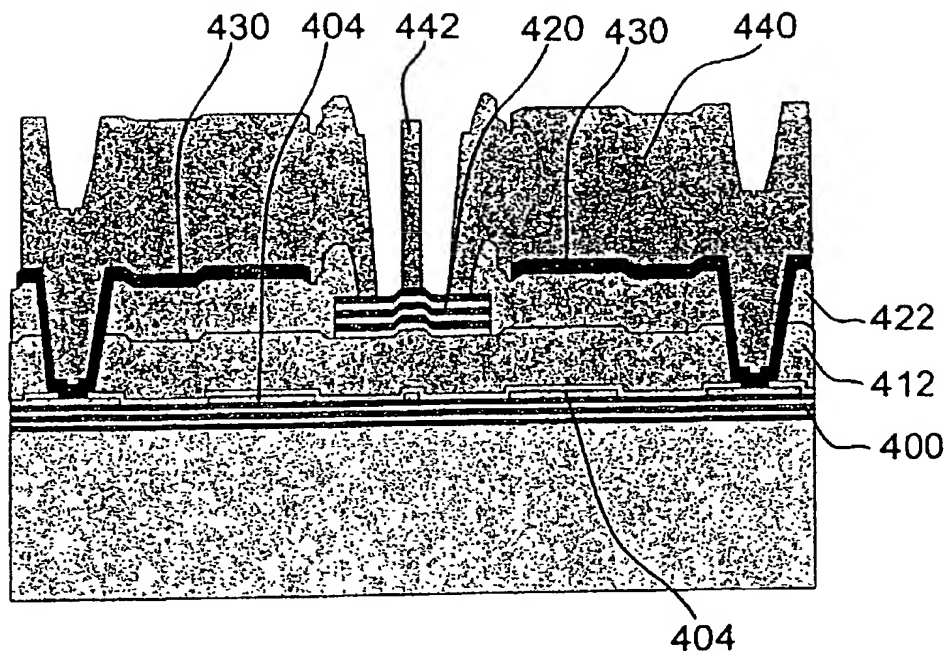
**FIG. 13F**



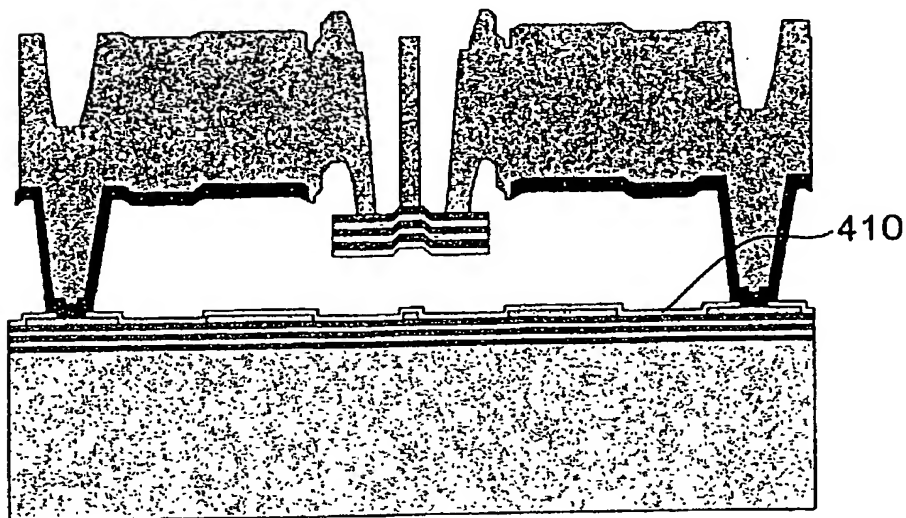
*FIG. 13G*



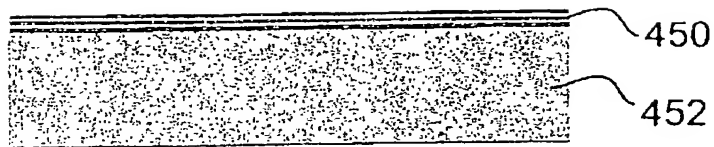
*FIG. 13H*



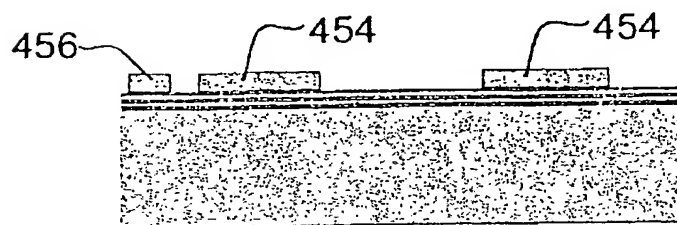
**FIG. 13G**



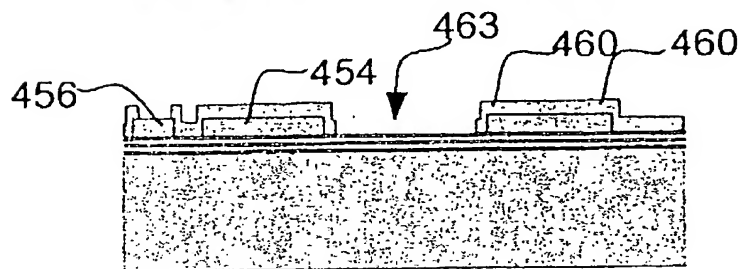
**FIG. 13H**



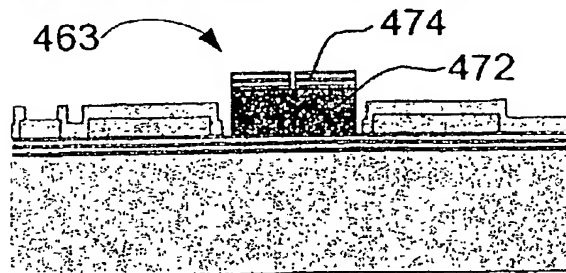
*FIG. 14A*



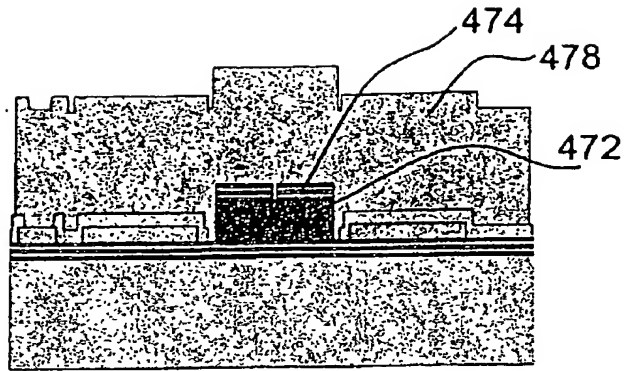
*FIG. 14B*



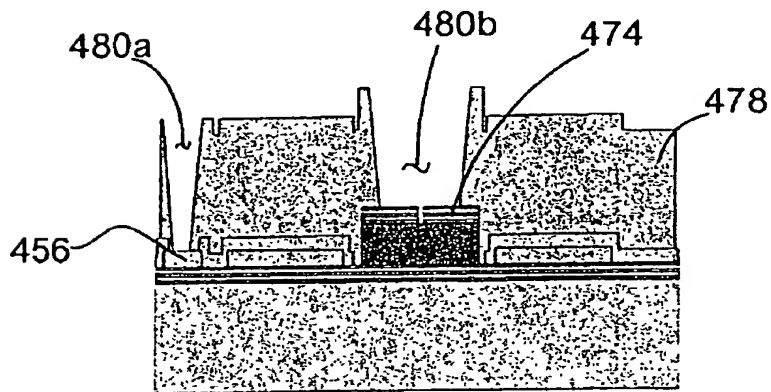
*FIG. 14C*



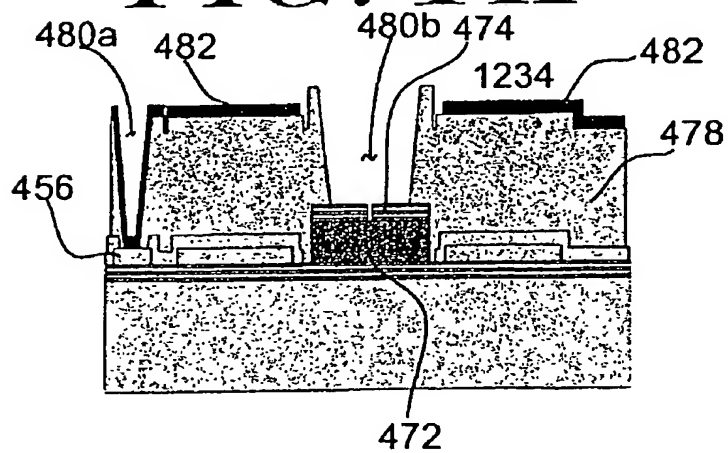
*FIG. 14D*



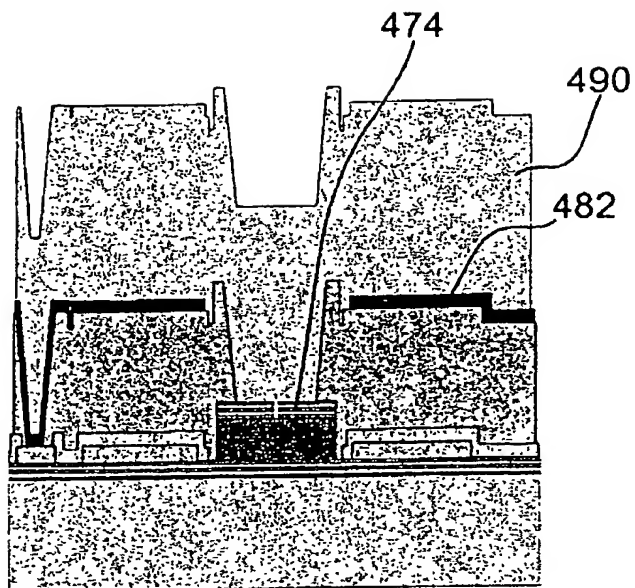
**FIG. 14E**



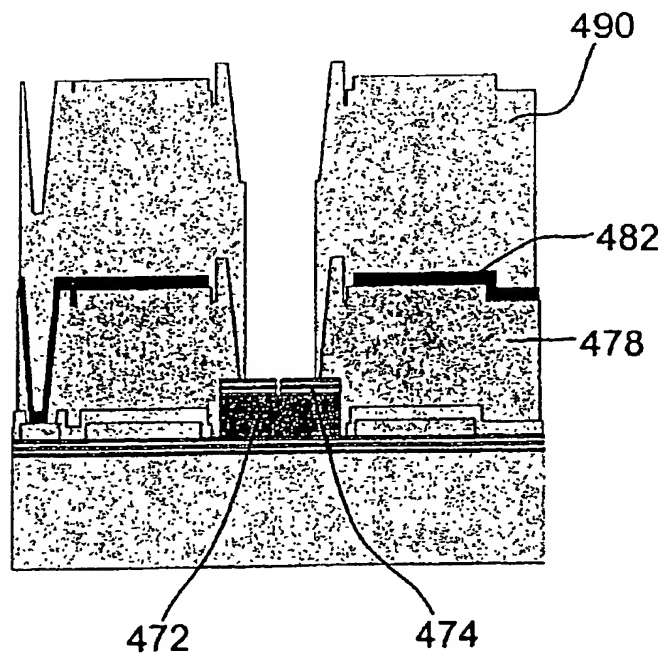
**FIG. 14F**



**FIG. 14G**

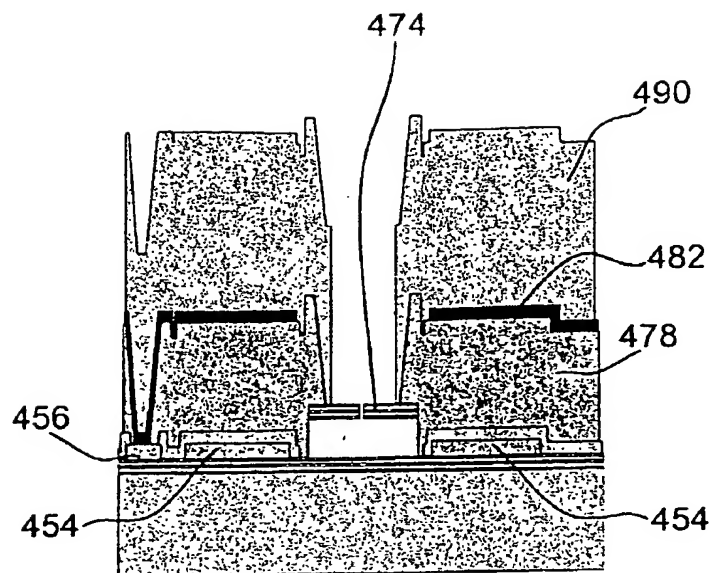


***FIG. 14H***

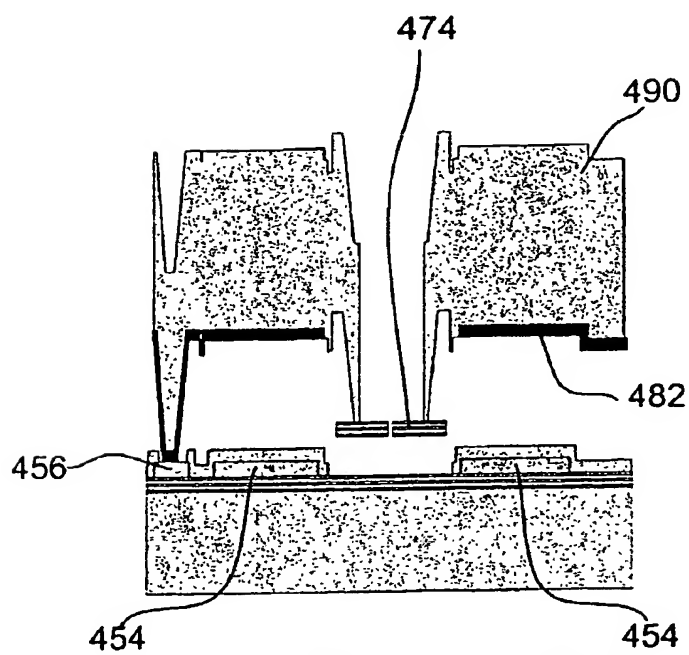


***FIG. 14I***

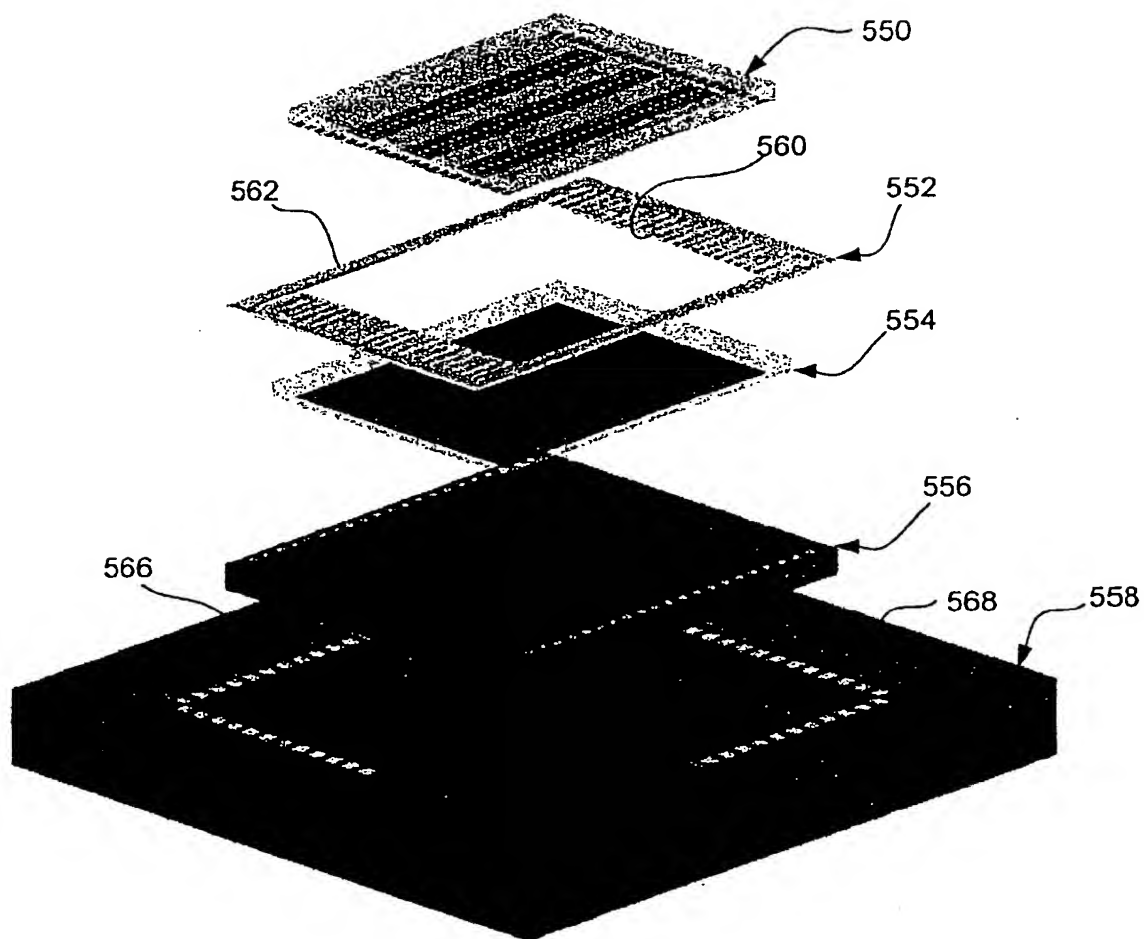




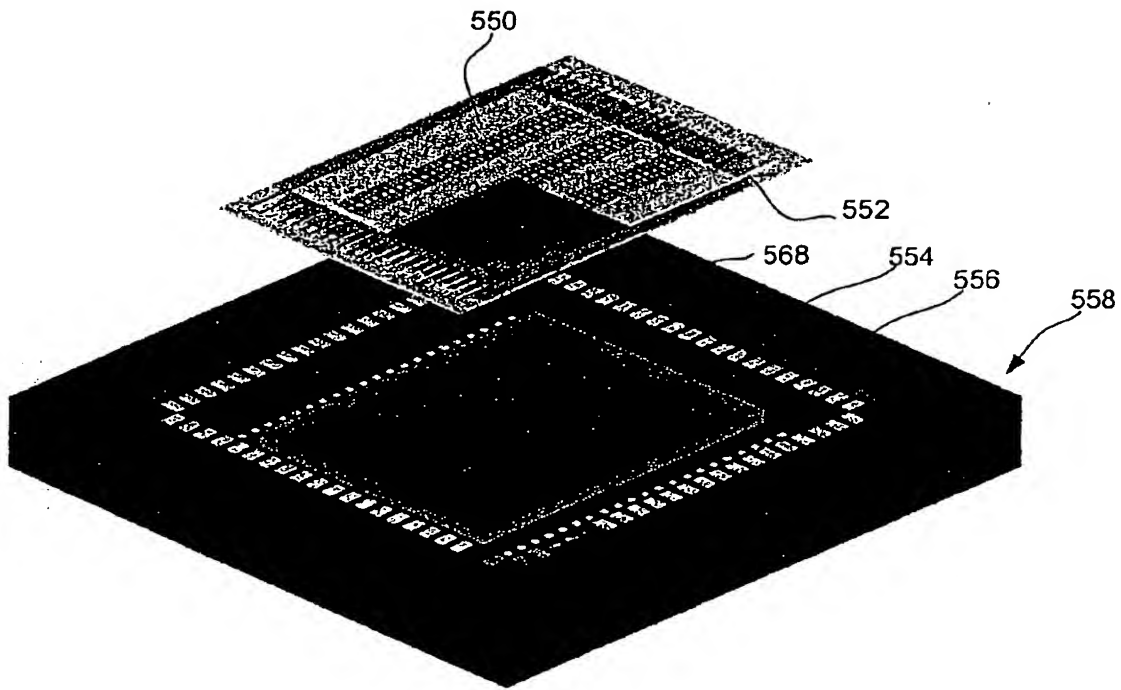
**FIG. 14J**



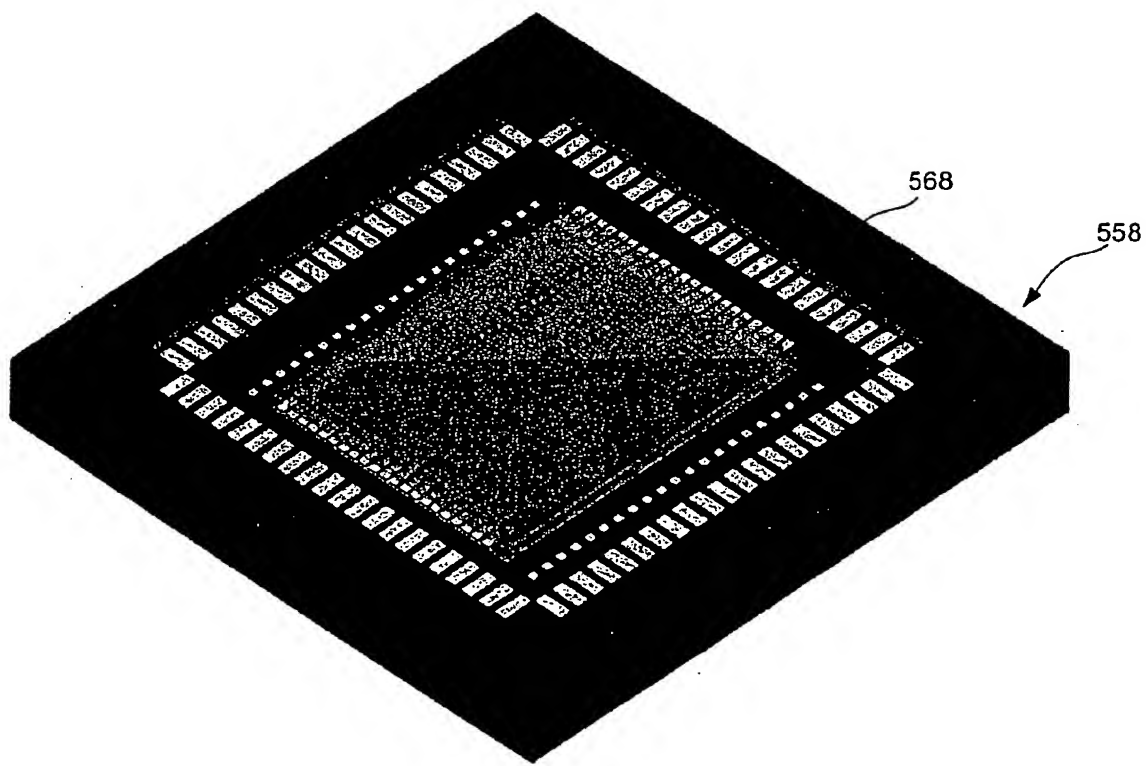
**FIG. 14K**



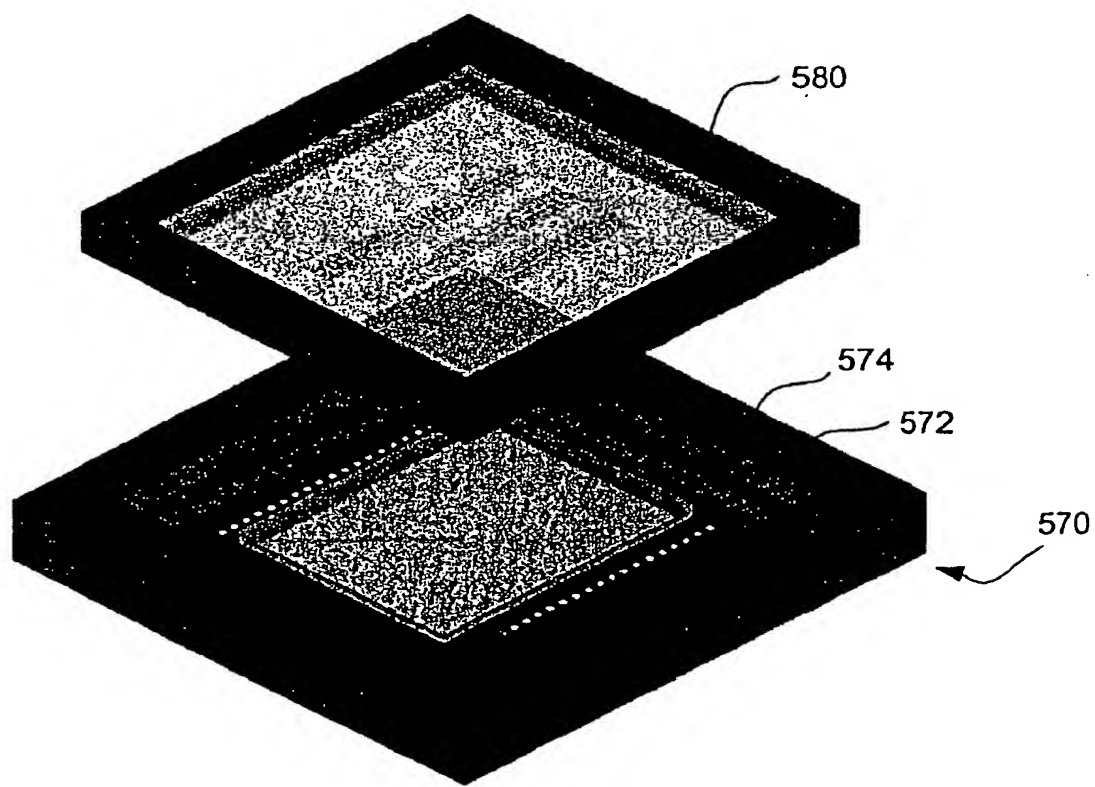
*FIG. 15A*



*FIG. 15B*



*FIG. 15C*



*FIG. 16*

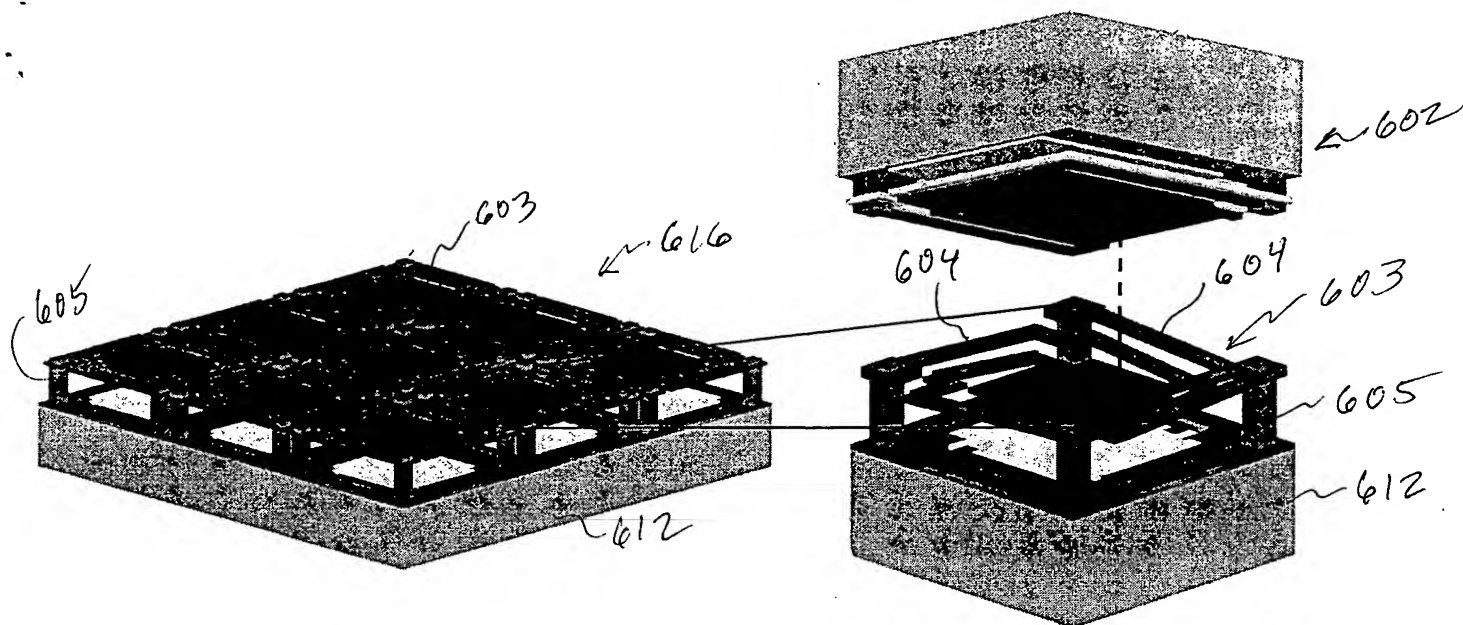


FIGURE 17

### Die Perspective

- ✓ Peripheral signal routing MUX
- ✓ Peripheral NiFe posts

### Pixel Perspective (2X Vertical Scaling)

- ✓ Si AR Coating
- ✓ Etalon CMOS with IR openings
- ✓ Etalon Mirror ( $Y_2O_3$  / Ge)
- ✓ Vias to Etalon Mirror
- ✓ Etalon Legs
- ✓ Etalon membrane mirror (Si or Ge Quarter wave)
- ✓ Etalon - Bolometer Gap (10  $\mu m$  as shown)
- ✓ Bolometer pixel with 2.5  $\mu m$  gap
- ✓ Bolometer reflector
- ✓ Bolometer CMOS on Si

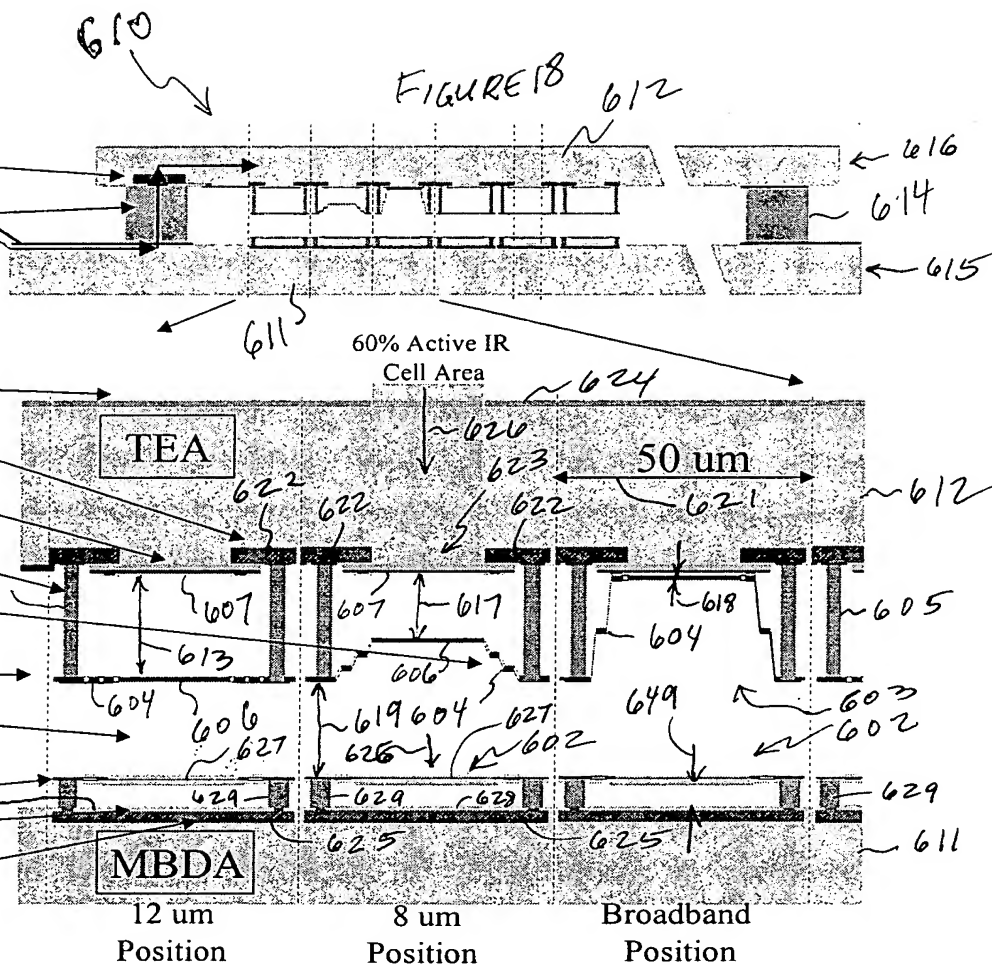


FIGURE 19

# LAMBDA Spectral Signal Levels (Range of F/# Lenses)

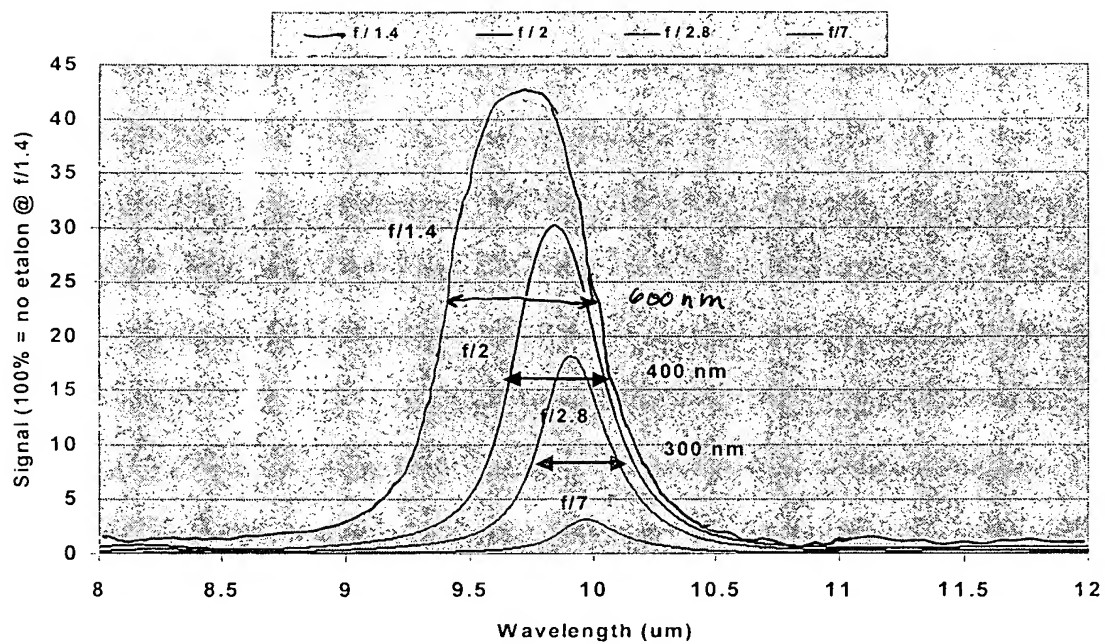


FIGURE 20



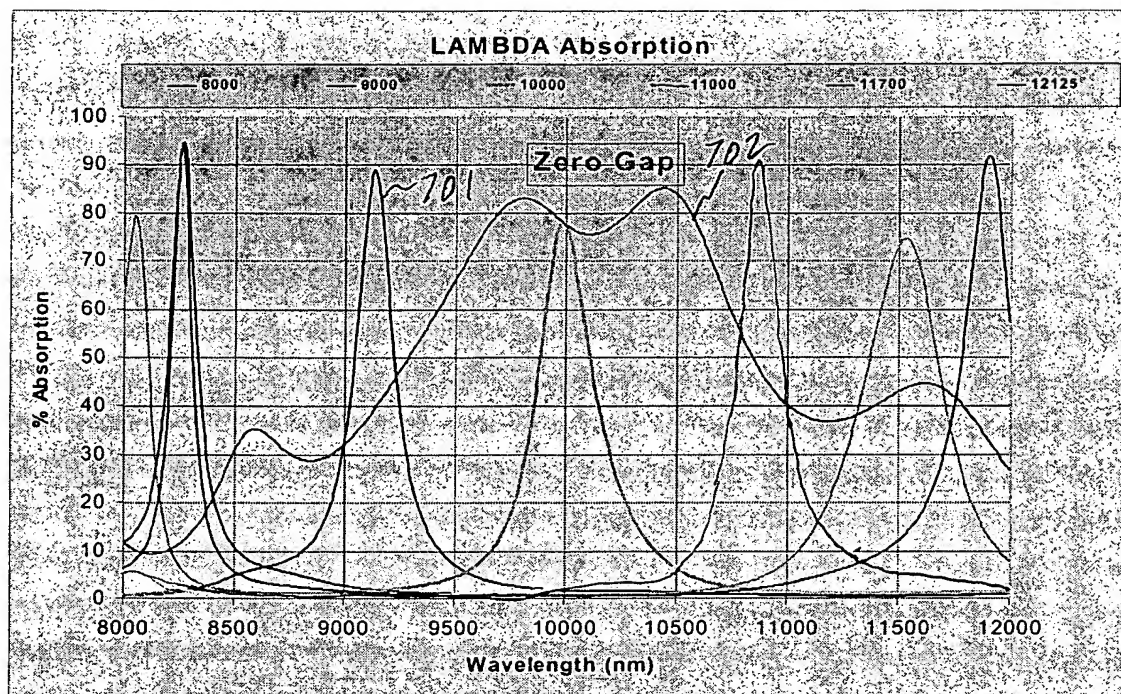


FIGURE 21

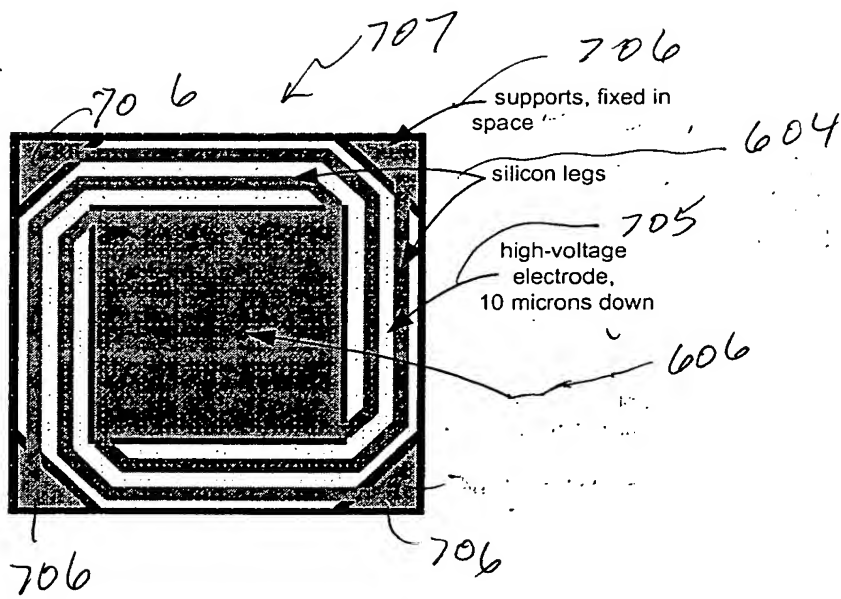
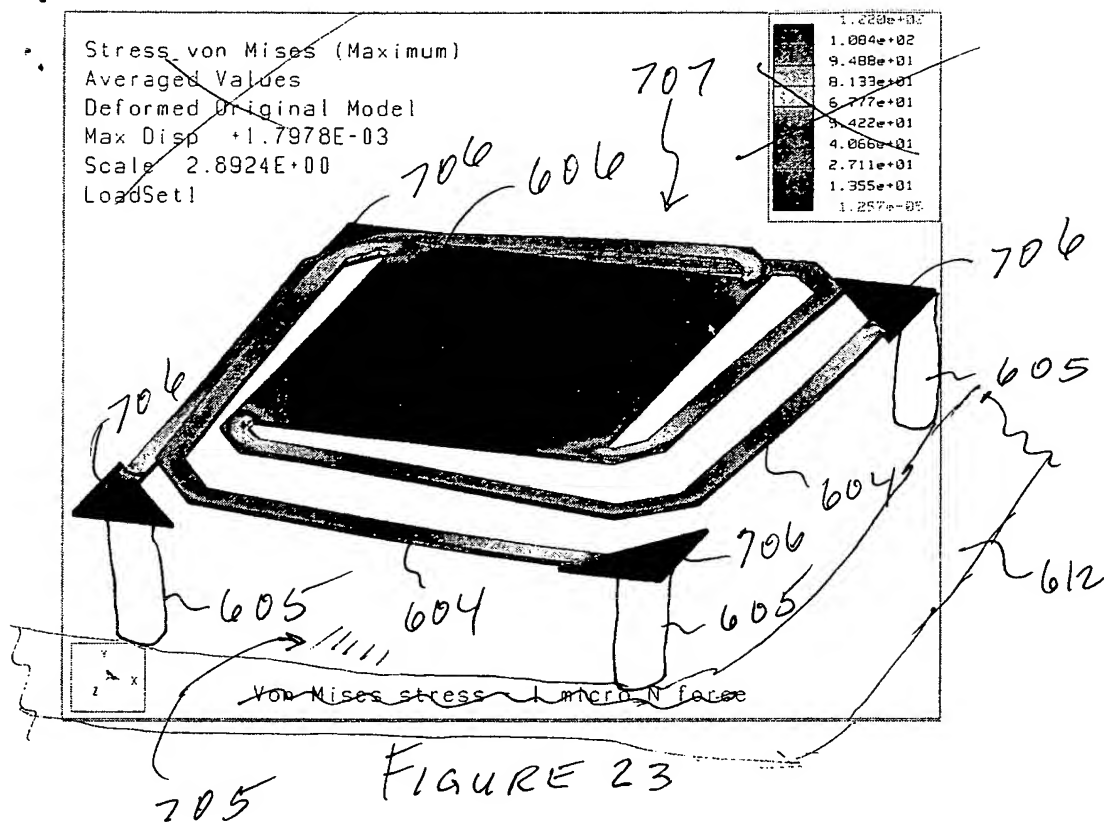


FIGURE 22



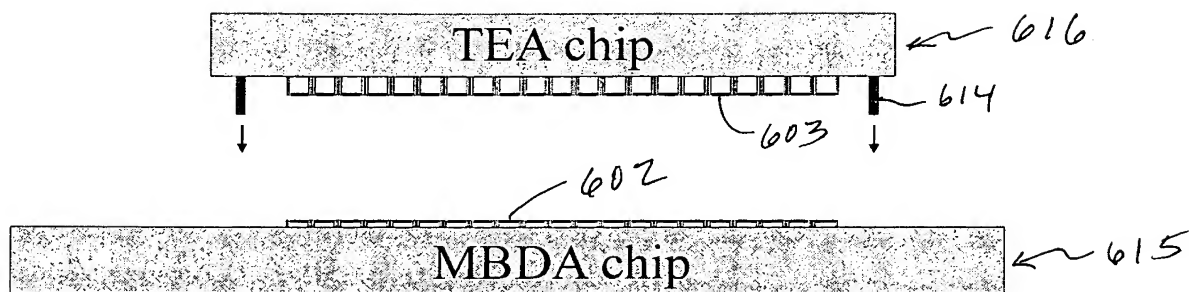


FIGURE 24A

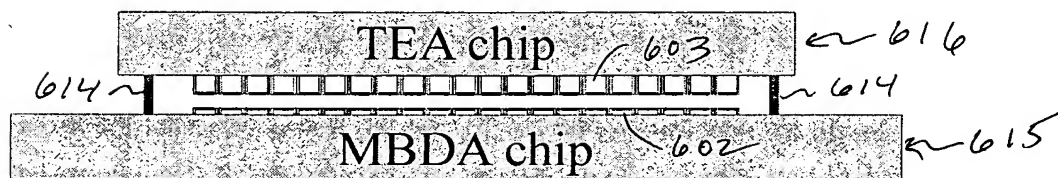


FIGURE 24B

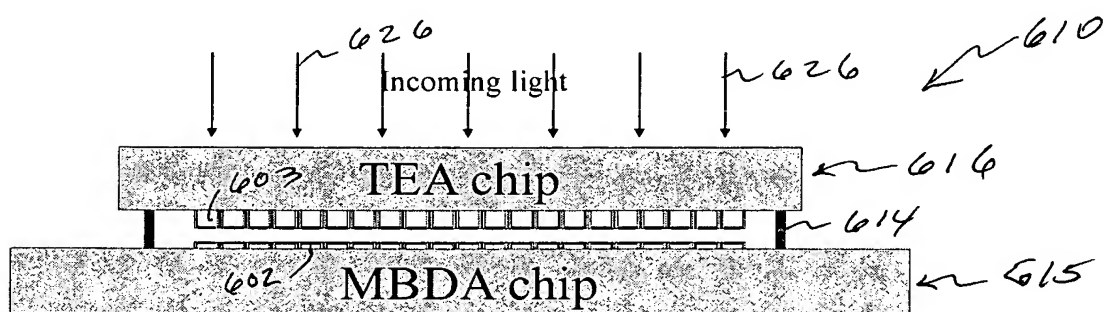


FIGURE 24C

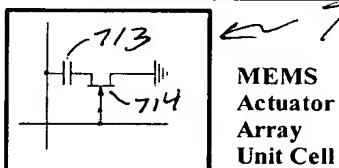
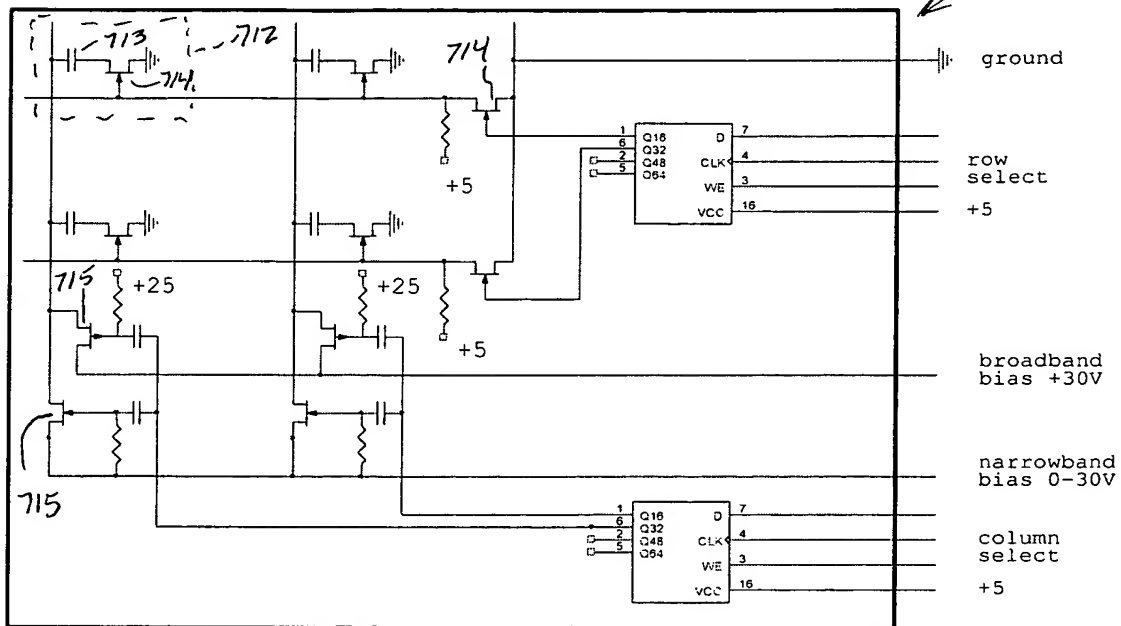


FIGURE 25A MEMS Actuator Array

FIGURE 25B

Title	MEMS actuator array
Size	Document Number
	UAFPA drive.opj
Date	Thursday, June 20, 2002
Sheet	1 of 1
Rev	

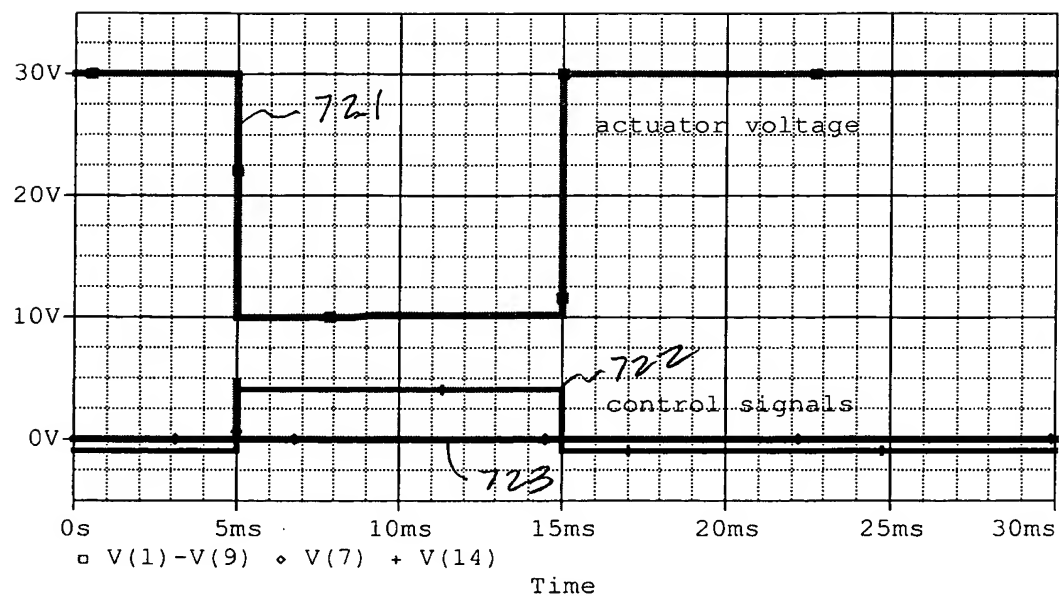


FIGURE 26

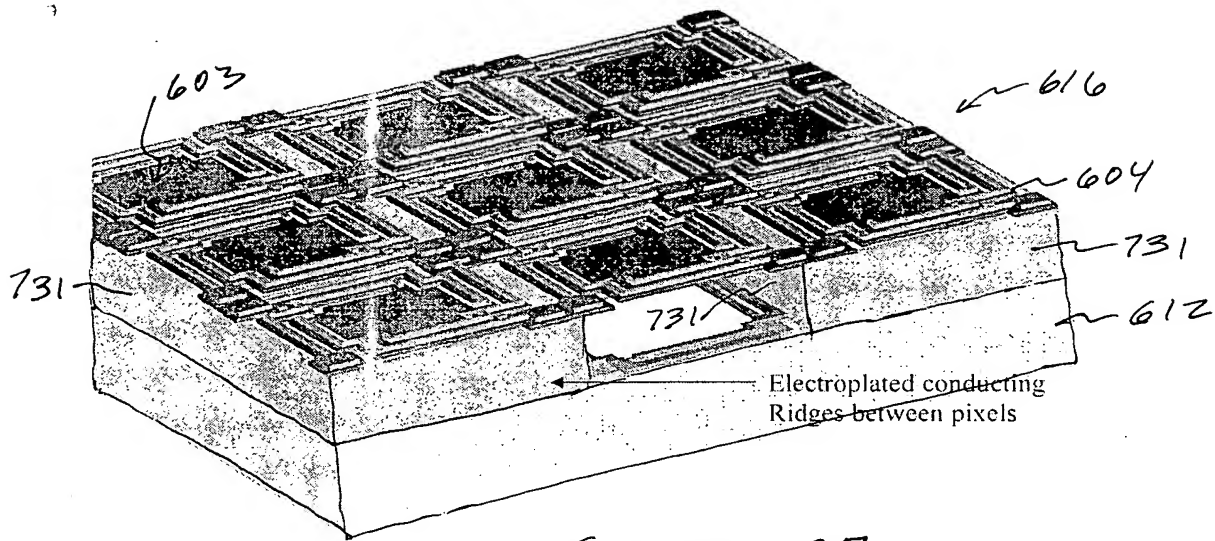


FIGURE 27

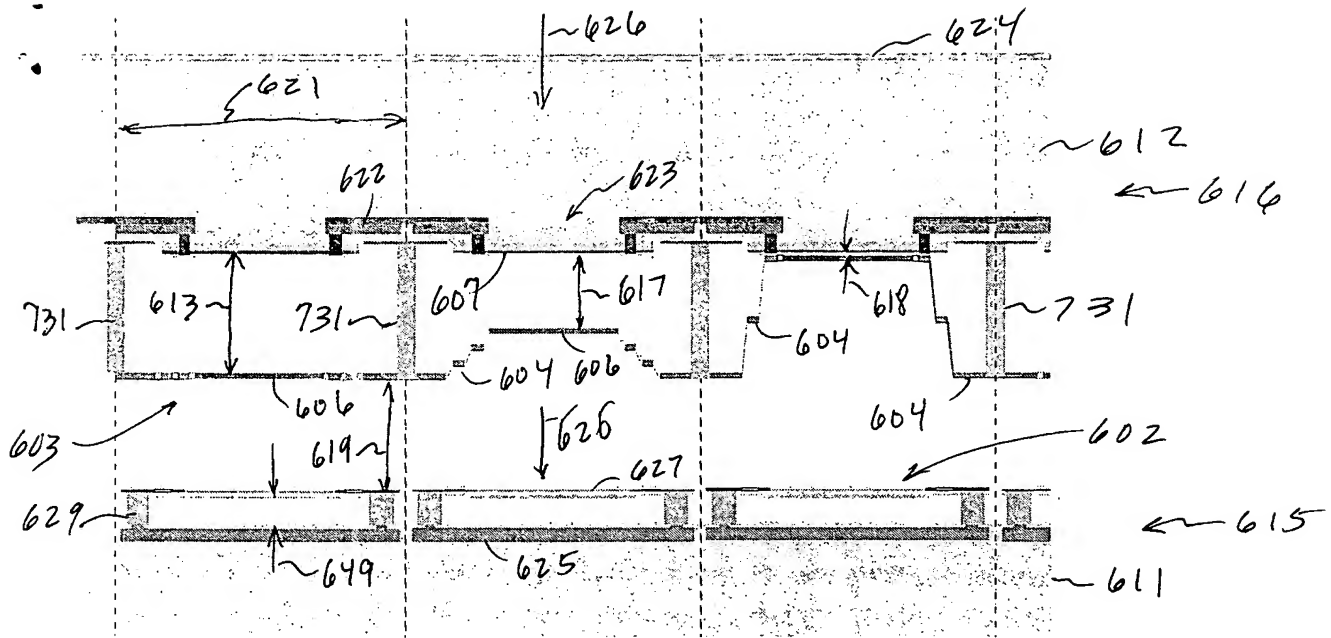


FIGURE 28



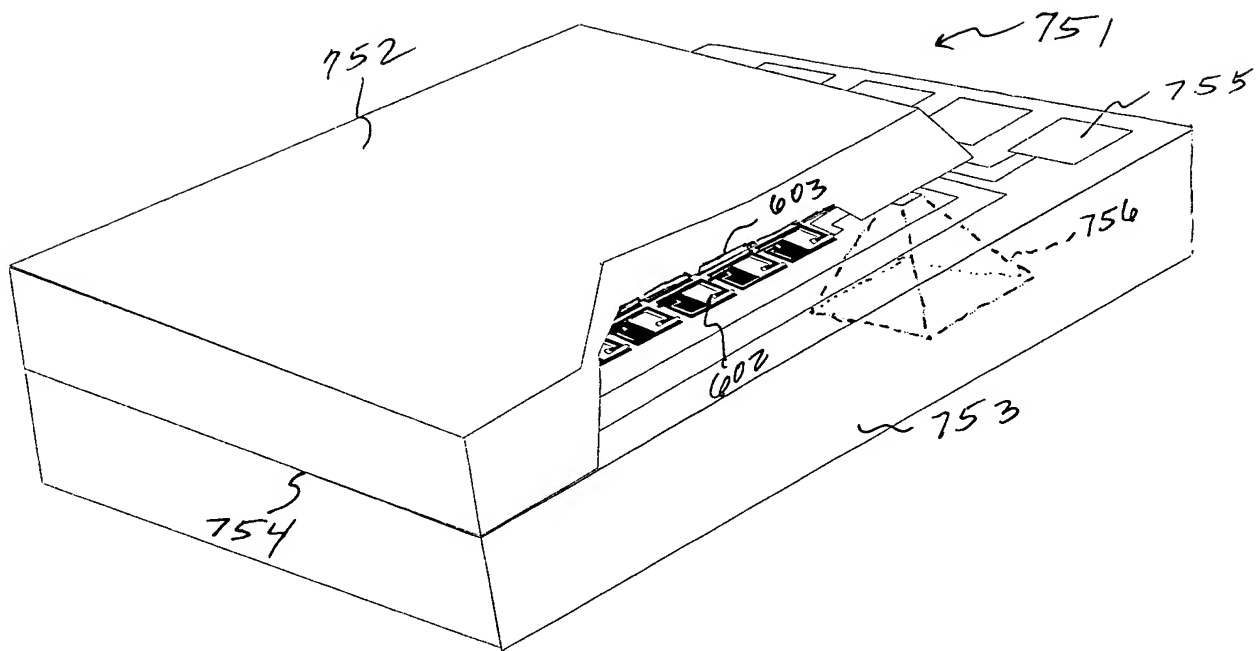


FIGURE 29